Safety Precautions

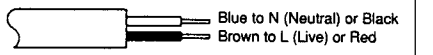
The rating plate and the safety caution are on the rear of the unit.

WARNING — DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

IMPORTANT

Connection to the mains supply plug in the United Kingdom.

Do not make any connection to the Larger Terminal coded E or Green. The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured Black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

Omkopplaren OPERATE på denna apparat är sekundärt kopplad och skiljer inte apparaten från nätet i läge OPERATE OFF.

The OPERATE button does not completely shut off mains power from the unit, but switches operating current on and off.

BEMAERK: I stilling OFF er apparatet stadig forbundet med lysnettet Hvis det ønskes fuldstændig afbrudt skai netledningen trækkes ud.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC and Standard IEC Publ. 65.

IMPORTANT:
Please read the "Precautions" section of this instruction manual before installing or operating the recorder.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the AC outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING

There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).

1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT: It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.

VHS PAL HQ

- Only cassettes marked "VHS" can be used with this video recorder.
- HQ VHS is compatible with existing VHS equipment.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

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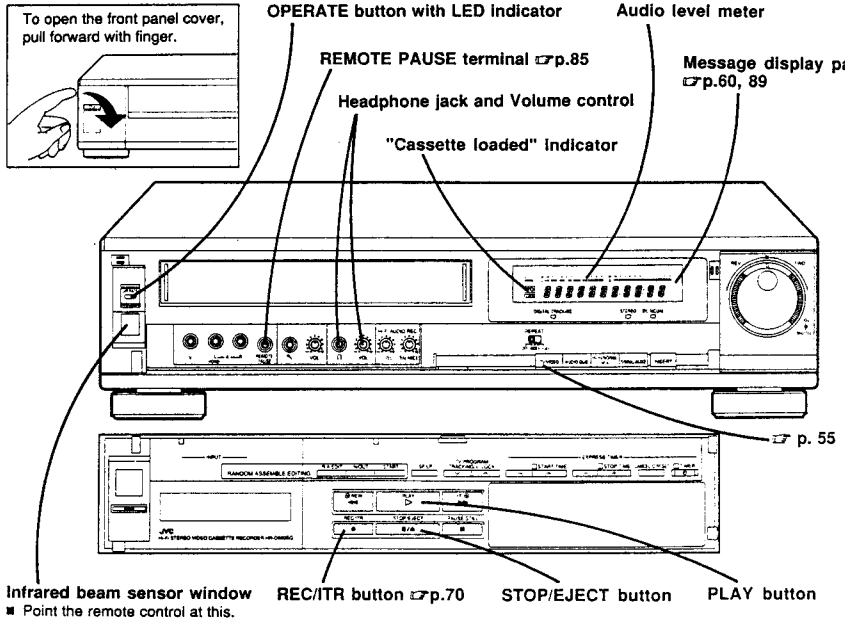
How To Use This Instruction Manual

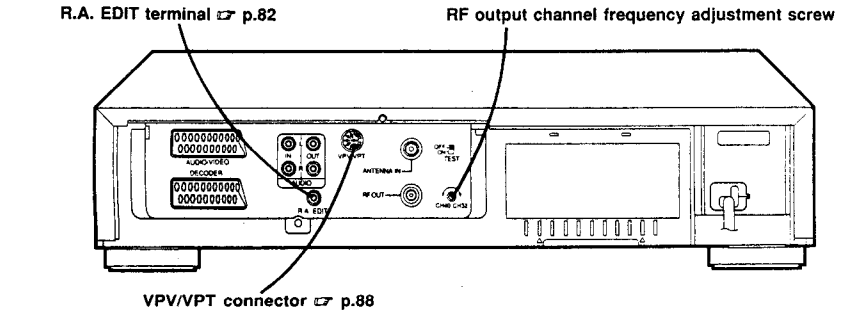
This instruction manual has been designed with both new and experienced users in mind. The first half offers detailed, step-by-step instructions for setting up your video recorder, and on using its basic functions. The second half provides instructions on the many other functions available on your video recorder. So just by following the instructions on the "Getting Started" and "Basic Operation" sections of this manual, you can master all of your recorder's basic functions, including timer-recording. Once you're sufficiently familiar with basic operation, or if you're already an experienced video user, you can move on to the more advanced functions introduced on the following pages. Related features have all been clustered together for easy reference, and their categories (playback, recording, timer, etc.) are easily recognisable by the symbol appearing in the page header. If you ever need to refer to another page for instructions or information, you will be told so by a ☞ mark pointing to the page number. Remember, you must use your video recorder correctly to fully enjoy it. Please use this manual effectively. It's the surest and quickest way to unlock the full potential of your new JVC video recorder.

Controls, Indicators, And Connectors

Front Panel

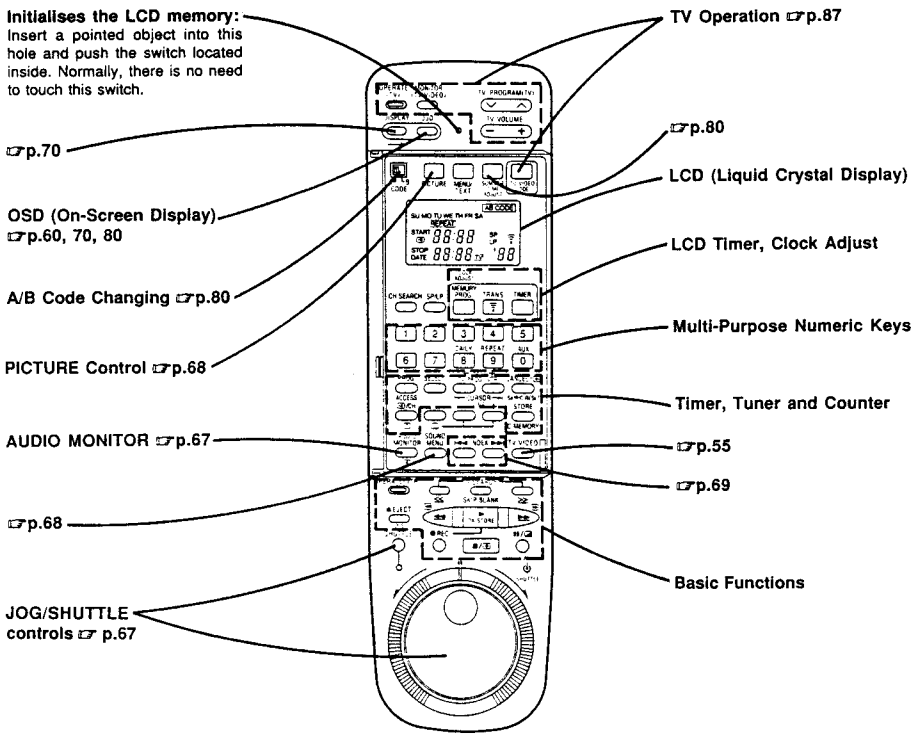

To open the front panel cover, pull forward with finger.
OPERATE button with LED indicator
Audio level meter
REMOTE PAUSE terminal ☞p.85
Message display panel ☞p.60, 89
Headphone jack and Volume control
"Cassette loaded" indicator
☞ p. 55
Infrared beam sensor window
■ Point the remote control at this.
REC/ITR button ☞p.70
STOP/EJECT button
PLAY button

Back Panel



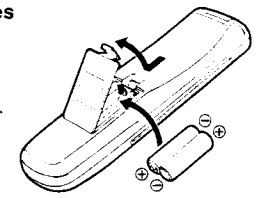
Wireless Remote Control

Open the remote's cover to access the buttons under the cover.


Initialises the LCD memory: Insert a pointed object into this hole and push the switch located inside. Normally, there is no need to touch this switch.
☞p.70
OSD (On-Screen Display) ☞p.60, 70, 80
A/B Code Changing ☞p.80
PICTURE Control ☞p.68
AUDIO MONITOR ☞p.67
☞p.68
JOG/SHUTTLE controls ☞ p.67
TV Operation ☞p.87
☞p.80
LCD (Liquid Crystal Display)
LCD Timer, Clock Adjust
Multi-Purpose Numeric Keys
Timer, Tuner and Counter
☞p.55
☞p.69
Basic Functions

Installing Batteries

1. Open the battery compartment cover.
2. Insert 2 "R6"-size batteries (provided) in the correct directions.
3. Replace the cover.

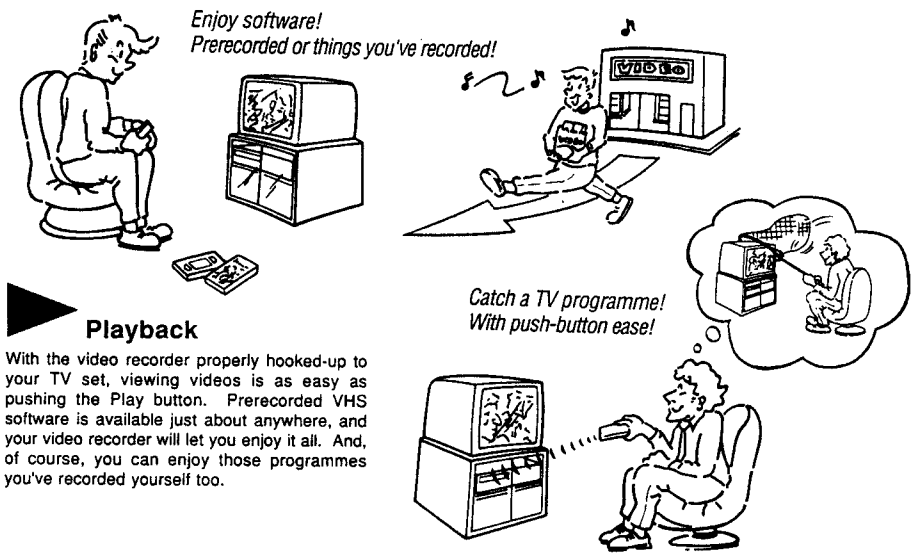


NOTE:
Some buttons have additional labels (mostly pictograms) for teletext operations. You will find instructions for these in the Instruction Manual of the teletext adapter.

How To Use
The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets of JVC and other brands. ☞p.87
- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

Getting To Know Your Video Recorder

The 3 Basic Ways Of Using Your Video Recorder



Playback

With the video recorder properly hooked-up to your TV set, viewing videos is as easy as pushing the Play button. Prerecorded VHS software is available just about anywhere, and your video recorder will let you enjoy it all. And, of course, you can enjoy those programmes you've recorded yourself too.

Record TV programmes while you're away.
Watch TV programmes when you want.

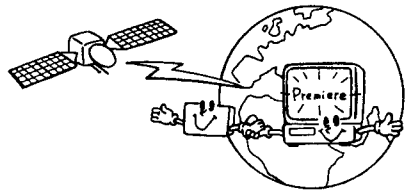
Recording

Just press the Record and Play buttons together on your remote control. The recorder will record whatever it is that you're watching. In other words, you can instantly "catch" a TV programme in progress to see it again later, show it to someone else, or keep it as part of your video library. Recording is possible for 4 hours in the SP (Standard Play) mode, and for 8 hours in the LP (Long Play) mode, on a single E-240 cassette.

Timer-Recording

By using the built-in timer, you can set your video recorder to record TV programmes for you while you're asleep, while you're away, or while you're doing something else. Then you can watch those programmes later, whenever it's convenient, whenever you want. This is what's called "timeshifting", and now you can do it the JVC way.

Some Other Functions On Your Video Recorder

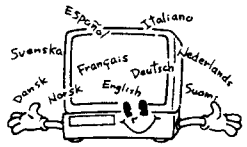


Premiere Decoder Compatible

Can subscribe to Premiere and receive satellite broadcasts via a connected Premiere decoder.

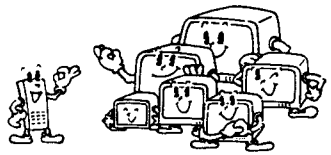
"Message" Display Panel

The video recorder "talks" to you from its message display panel. It's easy to understand what the recorder is doing at any time — a friendlier way to interact with your video deck.



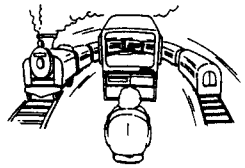
Multi-Language On-Screen Display

Ten languages to choose from. So you can check the engaged mode, program the timer, and more, while watching on-screen messages in your own language.



Multi-Brand-TV-Compatible Remote Control

Compatible with most major brands of televisions for basic control functions. Put an end to two-handed remote control.

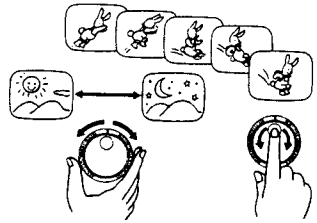


Hi-Fi Stereo Sound

Enjoy films with Hi-Fi stereo soundtracks just as you would in theatres. Use the built-in Sound-Multiplex decoder to record stereo or bilingual programmes.

Express Timer

Makes timer programming as easy as pressing three buttons on the recorder. Start time, stop time, engage — that's all!



Jog/Shuttle Controls

Fast, accurate visual search from slow motion to fast motion, or frame-by-frame search, in either direction. Useful in editing or playback.

Sound Menu

Brings out the best in video sound with the most effective acoustic compensation for every type of software — whether it's stereo or mono, film or music.

Making The Right Connections

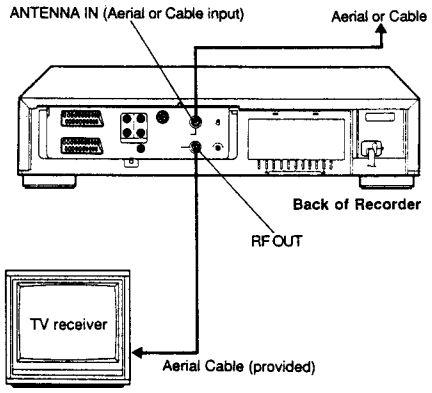
It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

A RECORDER-TO-TV CONNECTION

RF CONNECTION

For TV sets without AV input terminals:

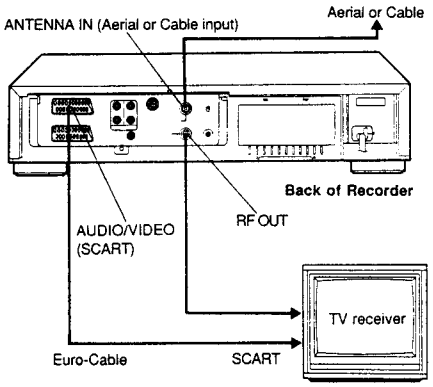
1. Connect the TV aerial cable to the recorder.
2. Connect the recorder to the TV's aerial terminal.



AV CONNECTION

For TV sets with AV input terminals:

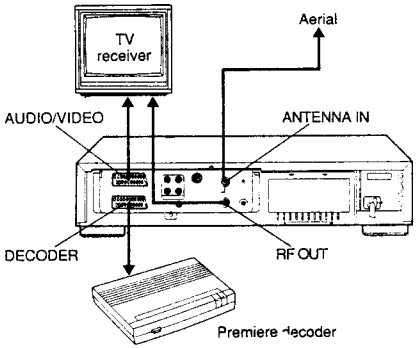
1. Connect the aerial, recorder and TV as per "RF CONNECTION".
2. Connect the recorder to the TV's 21-pin SCART connector.



NOTE:

If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.

B RECORDER-TO-DECODER CONNECTION



If you are subscribed to Premiere, simply connect the decoder (provided by Premiere) to the DECODER connector of your recorder. Then you can record or timer-record Premiere programmes as well.

CONNECTION

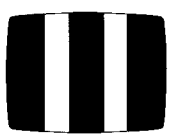
1. Connect the recorder and TV as per "RECORDER-TO-TV CONNECTION".
2. Connect the decoder to the DECODER connector of the recorder.

C ADJUST VIDEO CHANNEL (UHF 36)

With an RF connection, the video recorder sends picture and sound signals through the connecting cable to your TV on UHF channel 36.

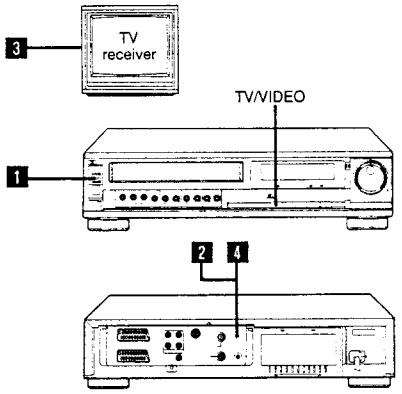
TEST SIGNAL

1. Turn on the recorder.
2. Set the TEST switch to ON.
3. Set your TV to UHF channel 36 and fine-adjust it until you bring in the two vertical white bars on the screen most clearly.
   - Your TV should be set to the channel designated for use with a video recorder or to a spare channel if there is not a specified channel.
4. Reset the TEST switch to OFF.



NOTE:

If some interference noise is seen on the screen because of broadcasts on neighbouring channels, it is necessary to shift the video channel from UHF channel 36. This is possible for UHF channels 32 through 40. Consult your JVC dealer for making this adjustment.



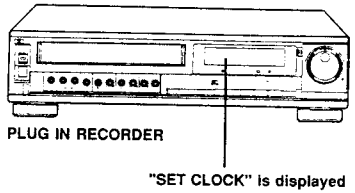
IMPORTANT:

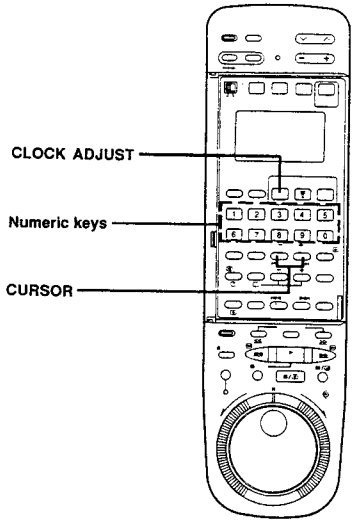
To operate the recorder with your TV using an RF connection, it is always necessary to set your TV's channel to VIDEO CHANNEL. With an AV connection, set the TV to the VIDEO (or AV) mode.

- The TV/VIDEO button switches the recorder's mode between TV and VIDEO. When the power is turned on, the recorder's TV mode is selected. To use the recorder's function, select the VIDEO mode.
- When the TV/VIDEO button is used to change the recorder's mode to VIDEO, the connected TV's mode also switches to VIDEO automatically.

Setting The Clock

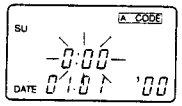
Since your video recorder bases all of its timer recording start and stop "decisions" on the time kept by its built-in clock, accurate setting of this clock is crucial for proper timer-recording results. Follow these instructions to set the remote control's LCD clock and transfer its contents to the recorder's clock.





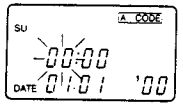
A LOAD BATTERIES (☞p.51)

1 Check the LCD.
- The time display section (0:00) will be blinking.



B START CLOCK SETTING

2 Press CLOCK ADJUST.
- Blinking digits will prompt you to items that can be set.

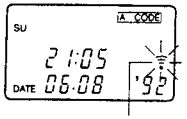


C INPUT THE TIME

3 Press the appropriate numeric keys.
- Example: For 21:05, press 2 1 0 5. Always enter "0" before single-digit entries.

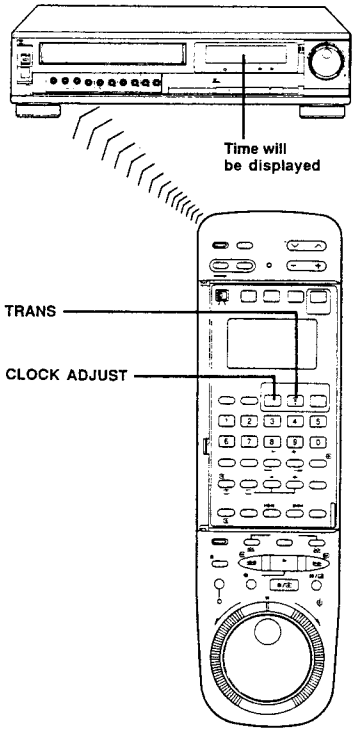
D INPUT THE DAY/MONTH/YEAR

4 Press the appropriate numeric keys.
- Example: For 6th August, 1992, press 0 6 0 8 9 2. Always enter "0" before single-digit entries.
- After setting the year, the transfer-ready mark will appear and blink.



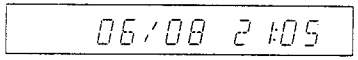
TO MAKE CORRECTIONS

Press either CURSOR button so that the item you want to change blinks. Re-input that item. Continue to step E.



E TRANSFER AND START THE CLOCK

5 Press TRANS.
- The day of the week will automatically appear.
- The remote control's clock will start. At the same time, the set data will be transferred to the recorder.



AFTER A POWER OUTAGE

Since your video recorder has a 60-minute backup memory, it will not be affected by short power outages. If mains power is unavailable for over one hour, however, the recorder's display will revert to "SET CLOCK". In such a case, simply transfer the remote control's time to the recorder.

1 Press CLOCK ADJUST twice.
2 Press TRANS.

For quick "summer time" (Daylight Saving Time) adjustment, ☞p.80.

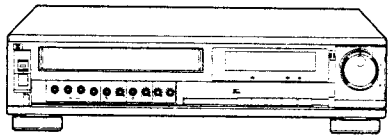
NOTES:

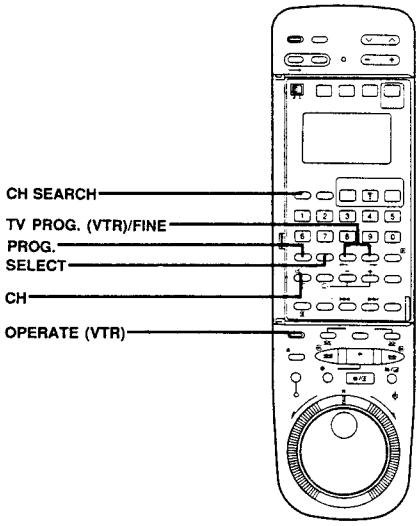
- If the day and month data is invalid (such as 31st April), the month digits are cleared automatically and the day digits will blink. Input again.
- If the year digits are automatically cleared in step D, it is possible that you have input 29th February for a non-leap year. Input again.
- When the batteries are exhausted, the time display will change to "0:00" and start blinking. Replace all the batteries and set the clock again.

Setting The Tuner

The procedure introduced here lets you assign receivable channels in your area to channel positions on your video recorder's tuner. Once stored, these can be accessed with the TV PROG. (VTR) ∨/∧ buttons. During channel scanning, empty tuner channel positions will be skipped so you won't have to go through any "blank" channels to get to the one you want.

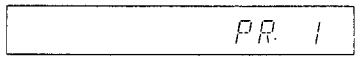
POWER ON;
SELECT VIDEO
CHANNEL (OR AV MODE)





A ENGAGE THE CHANNEL SET MODE

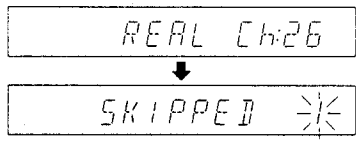
1 Press OPERATE (VTR).



2 Press CH.

B SEARCH FOR RECEIVABLE CHANNELS

3 Press CH SEARCH.
- Automatic scanning will start at the lowest channel number, and stop when a broadcast is detected.

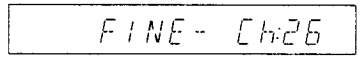


- Regular channels (Ch) are scanned first, then cable channels (CC).

C FINE-TUNE THE CHANNEL

- Check the picture on the TV screen, and fine-tune it if necessary. When the picture is clear, proceed to Step D.

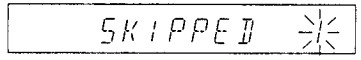
4 Press SELECT.
5 Press FINE (+ or –) so that the "–" sign appears at the centre.



6 Press SELECT.

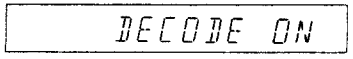
D SELECT A TUNER POSITION

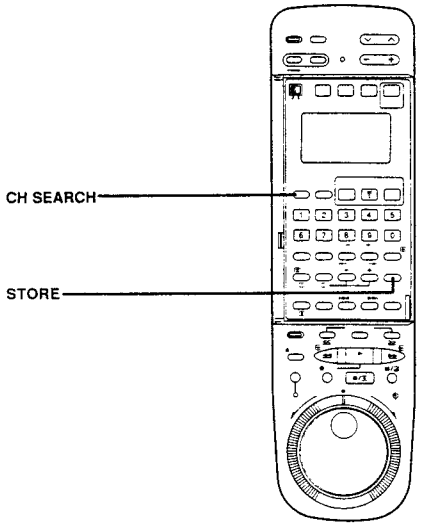
7 Press TV PROG. (VTR) to select the tuner channel position where you wish to store that broadcast.



FOR CODED-TV CHANNELS (Ex:Premiere)

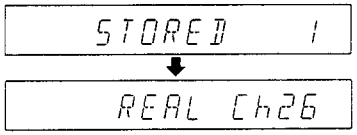
- If a scrambled picture appears on the screen, press PROG. The picture will be clear if the decoder is connected to the recorder and the power is on.



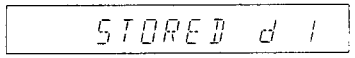


E STORE THE CHANNEL

8 Press STORE.



- This message indicates that UHF channel 26 has been stored into the tuner's channel position 1.
- When a coded-TV channel has been stored, the display panel shows:



F CONTINUE

9 Repeat steps B through E for other receivable channels.

TO CHANGE PRESET CHANNELS

- If you have already preset some channels, do not use the automatic Channel Search function to change or add channels. ☞ p.86.

ATTENTION

The "real channel" numbers displayed on the recorder may not correspond to channel designations in your area.

ITALY

Display	Ch	13	14	15	16	17	18	19	20	11	12
Corresponding channel		A	B	C	D	E	F	G	H	H1	H2

BELGIUM

Display	CC	01	02 10	11 20
Corresponding channels		80(M1)	81(M2) ... 89(M10)	90(U1) ... 99(U10)

SWITZERLAND

Display	CC	75	76	77
Corresponding channel		X	Y	Z

NOTES:

- If you don't want to store the broadcast detected in Step B, simply press CH SEARCH to continue automatic scanning. Search will stop as soon as another broadcast is detected.
- Be sure to proceed to the next step within 60 seconds, otherwise Channel Search will be cancelled automatically. If this happens and you wish to continue channel setting, press CH SEARCH again. Channel scanning will resume, beginning with the next receivable channel.
- To cancel "decoding" of the received channel in "FOR CODED-TV CHANNELS", press PROG. again.

MODE Mode Displays — What They Mean

Message Display Panel

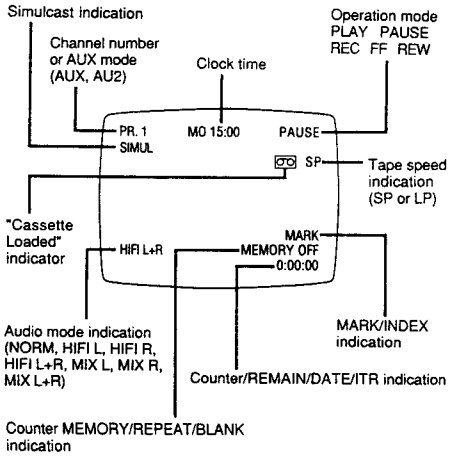
The operation mode is displayed on the recorder's display panel automatically. Displayed messages are designed to be self-explanatory. Here are some of the more common displays:

DISPLAY	MODE	DISPLAY	MODE
PLAY	Play	PAUSE (with channel number)	Record-Pause
STILL	Still	FWD SEARCH	Forward Search
FF	Fast-Forward	REV SEARCH	Reverse Search
REW	Rewind	FWD SLOW	Forward Slow
REC SP (with channel number)	Record	REV SLOW	Reverse Slow
TIMER REC	Timer-Recording	EJECT	Eject

For a more comprehensive list, ☞ p.89.

On-Screen Display

Operation modes (except PAUSE) are displayed on the TV screen only when the On-Screen Display function is set to ON. ☞p.80.



AUTOMATIC INDICATION

- **Channel, operation mode, audio mode, simulcast indication and "Cassette Loaded" mark**
  When the status is changed, the corresponding indication is displayed on the screen for 5 seconds. The PAUSE mode indication, however, is displayed for as long as the Pause mode is engaged.
- **Time and date**
  When time setting is completed, time and date are displayed for 5 seconds.

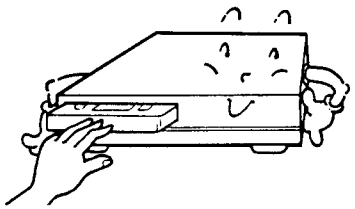
MANUAL RECALL

1. Press OSD (On-Screen Display).
   - All indications corresponding to the current status is displayed for 5 seconds, leaving the counter information (counter, REMAIN or DATE) on the screen.
   - To check only the counter information, press DISPLAY.
2. Press OSD to clear the counter display.

Handling Video Cassettes

A LOADING A CASSETTE

1. Pull the front panel cover open.
2. Insert a cassette with its label side facing you.
   - If the cassette is not loaded firmly it will be ejected.



B UNLOADING A CASSETTE

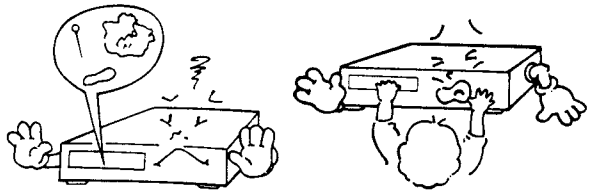
1. Press EJECT.
   - If the cassette will not eject, check to see if "TIMER" is displayed on the message display panel. If it is, press the TIMER button to turn it off.

NOTES:

- Be sure to insert the cassette firmly into the slot; otherwise it will be automatically ejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.
- When ejecting the cassette using the remote control's EJECT button with the front panel cover closed, make sure that there are no obstructions preventing the front panel cover from opening.

WARNING

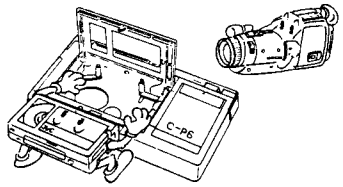
- Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
- Do not try to pull out a cassette once automatic loading has started.



Usable Cassettes

Full-Size VHS
E-30 (SE-30**)
E-60 (SE-60**)
E-90
E-120
E-180 (SE-180**)
E-240

Compact VHS*
EC-30 (SE-C30**)
EC-45 (SE-C45**)

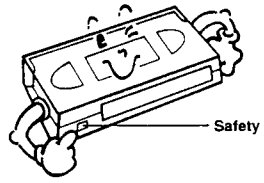


* Compact VHS camcorder recordings (PAL) can be played on this video recorder. Simply place the recorder cassette into a C-P6 Cassette Adapter and it can be used just like any full-sized VHS cassette.

** This video recorder can record on regular VHS and Super VHS cassettes. However, it will record and play back regular VHS signals only. It is not possible to play back a recorded Super VHS tape.

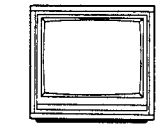
Accidental Erasure Prevention

To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.

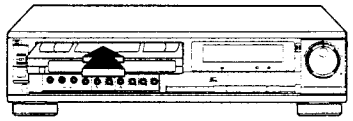


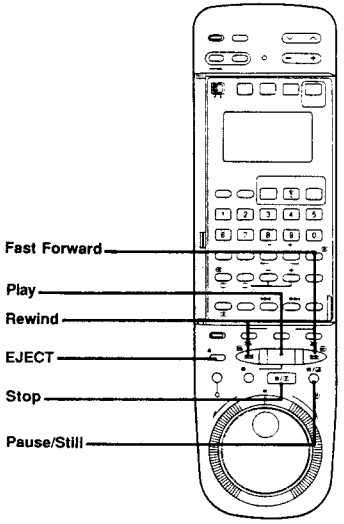
Playback

The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.



POWER ON;
SELECT VIDEO CHANNEL
(OR AV MODE)





A LOAD A CASSETTE

1 Insert a cassette.
- The recorder power will come on automatically.
- If the safety tab on the cassette is removed, playback will start automatically.

B TO START PLAYBACK

2 Press ► (Play).

C TO STOP PLAYBACK

3 Press ■ (Stop).

D TO REWIND OR FAST-FORWARD

4 Press ◄◄ (Rewind) to rewind the tape.
5 Press ►► (Fast Forward) to fast-forward the tape.
- Press ■ (Stop) to stop rewind or fast-forward.

E TO EJECT THE TAPE

6 Press EJECT.

High-Speed Forward And Reverse Search

During Playback:

1 Press ►► (Fast Forward) for high-speed forward search.
2 Press ◄◄ (Rewind) for high-speed reverse search.
3 Press ► (Play) to resume normal playback.
- For short searches, keep ►► (Fast Forward) or ◄◄ (Rewind) pressed for more than 2 seconds. When released, normal playback will continue.

Still Playback And Frame Advance

During Playback:

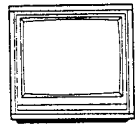
1 Press ❚❚ (Pause/Still) to view a still picture.
2 Press again to advance the picture frame by frame.
3 Press ► (Play) to resume normal playback.

NOTES:

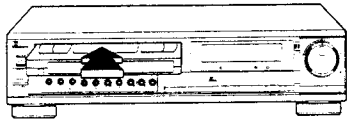
- Tapes with monaural soundtracks (normal audio) are automatically played back in the NORM mode. When playing back tapes with Hi-Fi stereo, bilingual, or audio-dubbed soundtracks, ☞p.67.
- The recorder automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable (vertical jitter) use the recorder's V. LOCK buttons to correct the picture.
- During search playback, some noise bars will appear.
- If noise bars appear during playback, correct using manual tracking. ☞p.66.
- There is no audio during search, still, or frame-by-frame playback.
- The recorder automatically rewinds when the end of the tape is reached.

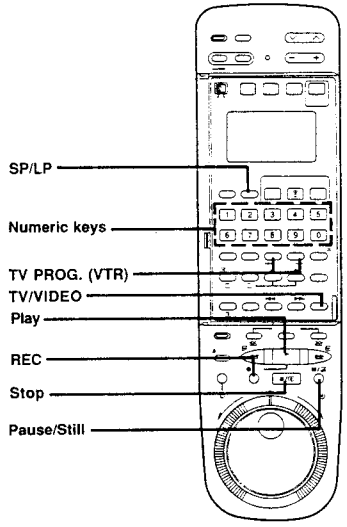
Recording

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. This is realtime video recording.



POWER ON;
SELECT VIDEO CHANNEL
(OR AV MODE)





A LOAD A CASSETTE

1 Insert a cassette with the safety tab in place.
- The recorder power will come on automatically.

B CHOOSE A PROGRAMME

2 Press TV PROG. (VTR) or the numeric keys to select the channel you wish to record.

C SELECT THE TAPE SPEED

3 Press SP/LP.

D TO START RECORDING

4 Press ● REC (Record) and ► (Play) simultaneously.

E TO PAUSE RECORDING

5 Press ❚❚ (Pause/Still).
6 Press ► (Play) to resume recording.

F TO STOP RECORDING

7 Press ■ (Stop).

To Watch Another Programme While Recording

During Record:

1 If your recorder is connected to the TV via AV connection, press TV/VIDEO.
- The recorder's VIDEO indicator and the TV broadcast being recorded will disappear.

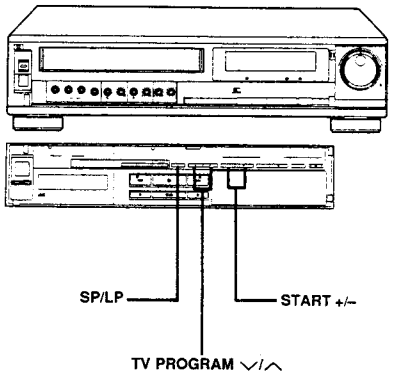
2 Use the channel controls on the TV to select the other channel you wish to view.
- The programme selected with the TV channel controls will appear on the TV screen while the one selected with the video recorder's channel controls will be recorded on the tape.
- If the Premiere decoder is connected to the recorder (☞ p. 55), you can select the Premiere channel as well with the TV channel controls.

NOTES:

- To start recording with the recorder's REC/ITR button, press it once on its own. Pressing REC/ITR more than once activates the Off-Timer. ☞p.70.
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The recorder automatically stops when record-pause continues for more than 5 minutes.
- If the Record button does not work, check to see if the cassette's safety tab has been removed.
- When a VPS programme is being broadcast on the selected channel, "VPS" appears on the display panel. ☞p.78 for information on VPS.
- The channel cannot be changed while recording is in progress. To change the channel, engage the record-pause mode, then change the channel.
- The recorder automatically rewinds when the end of the tape is reached during recording.
- For stereo or bilingual recording, ☞p.71.

Timer-Recording

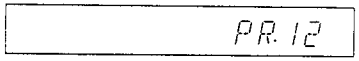
The "Express Timer" introduced here is the quickest method of programming your video recorder's timer. TV shows to be broadcast within 24 hours can be programmed for automatic recording simply by pressing three buttons (conveniently numbered) on your recorder's control panel. For timer programming using your remote control, ☞ p.74. TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.



Express Timer Programming

A LOAD A CASSETTE

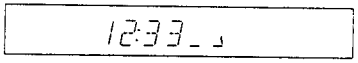
1. Insert a cassette with the safety tab in place.
   - The recorder power will come on automatically.
   - The recorder's display panel will show the channel being received.



2. If you want to record another channel, press TV PROGRAM ∨/∧ to change the channel.
3. If you want to change the tape speed, press SP/LP.

B SET THE START TIME

4. Press START +.
   - This engages the programme set mode, and the current time will appear.

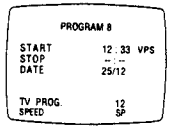


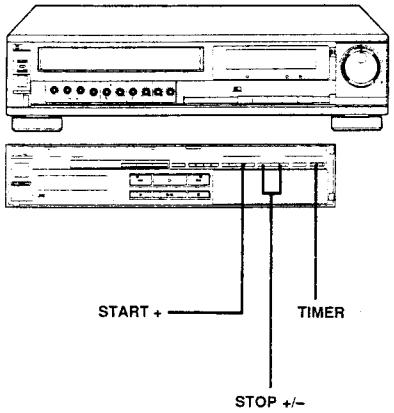
5. Press START +/– to set the start time.
   - START + advances the time and START – reverses the time.
   - Press briefly to change by 1 minute. Hold the button down to change by 30-minute increments.

   - After the start time is set, "TODAY" or "TOMORROW" will be displayed for 3 seconds.

TO WATCH THE ON-SCREEN DISPLAY

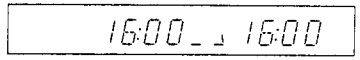
At step B, if the TV is on and is set to the video channel (or AV mode), the data you input will also be shown on the TV screen.



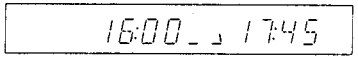


C SET THE STOP TIME

6. Press STOP +.
   - The start time will be transferred over to the stop time position automatically.

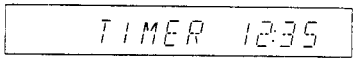


7. Press STOP +/– to set the stop time.
   - STOP + advances the time and STOP – reverses the time.
   - Press briefly to change by 1 minute. Hold the button down to change by 30-minute increments.



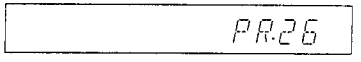
D SET TO TIMER MODE

8. Press TIMER.
   - The recorder will enter the timer mode and power will go off.



TO CHANGE CHANNELS

If needed, you can change the channel at any time during steps B and C. This changes the channel being received and the channel to be recorded.



TO CHANGE THE TAPE SPEED

If needed, you can change the tape speed at any time during steps B and C.

TO DISENGAGE THE TIMER

For safety, your recorder disables all other functions while in the timer mode.

- To use your recorder, first disengage the timer mode by pressing TIMER again. Now all functions will be operable.
- To re-engage the timer, press TIMER.

TO CHECK PROGRAMMED SETTINGS

While in the timer mode, press START + to check the settings you have programmed into the Express Timer. Each time START + is pressed, the display will change: Start Time, Stop Time, Date, Channel, Tape Speed, and "TIMER" again. DO NOT press START + while the timer mode is disengaged because this will clear the Express Timer's memory to make room for a new entry.

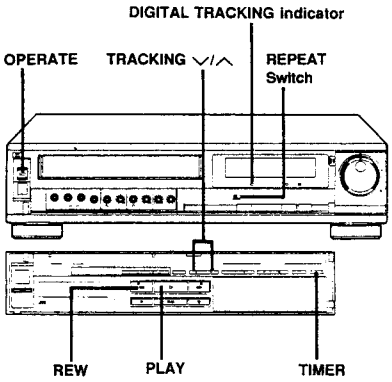
ATTENTION:

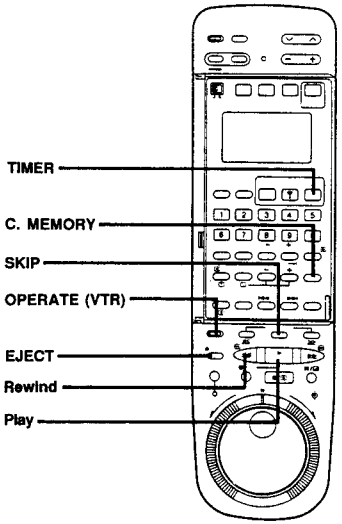
- If you have programmed the timer's PROGRAM 8 (via the on-screen programming facility that is available when an optional VPT adapter is connected, ☞ p. 88), using the Express Timer will clear that data from PROGRAM 8 and replace it with the Express Timer data.

For other timer programming methods, ☞ p.74.
Any questions? ☞ p.78.

For Playback

Take advantage of special functions possible with the recorder's controls or the remote control.





NOTE:
When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

Repeat Playback (Recorder)

Your video recorder can automatically play back the whole tape or an index-marked portion 5 times repeatedly.

1. Set the REPEAT switch to FULL or INDEX.
   - For Index Repeat playback, locate the index code at which you wish to start playback. (Index Search, ☞p.69.)
2. Press PLAY. Repeated playback will start. After repeating 5 times consecutively, playback will stop.
   - Be sure to reset the REPEAT switch to OFF before pressing the PLAY button again; otherwise repeat playback will resume.

Manual Tracking (Recorder)

Your video recorder is equipped with automatic tracking control; the DIGITAL TRACKING indicator lights or blinks when automatic tracking is on. During playback, tracking can be adjusted manually using the TRACKING buttons.

1. Press TRACKING (∨ and ∧) simultaneously for manual override.
   - The DIGITAL TRACKING indicator will go out.
2. Press TRACKING (∨ or ∧) to adjust tracking.
3. Press TRACKING (∨ and ∧) simultaneously to return to automatic tracking.

To adjust tracking during slow motion, simply press TRACKING (∨ or ∧) to obtain the best picture.

Next Function Memory (Recorder and Remote Control)

For automatic start of playback after the tape is rewound:
1. Press ◄◄ (Rewind).
2. Press ► (Play) within 2 seconds.

For automatic power off after the tape is rewound:
1. Press ◄◄ (Rewind).
2. Press OPERATE (VTR) within 2 seconds.

For automatic eject after the tape is rewound: (Remote Control only)
1. Press ◄◄ (Rewind).
2. Press EJECT within 2 seconds.

For automatic timer standby after the tape is rewound:
1. Press ◄◄ (Rewind).
2. Press TIMER within 2 seconds.

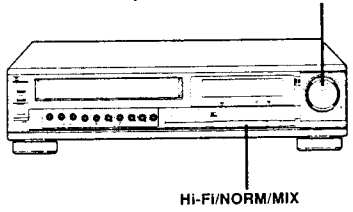
- If you want the "next function" to automatically start when the counter reads "0:00:00" (instead of at the beginning of the tape), press C. MEMORY so that the "M" mark appears before pressing ◄◄ (Rewind).

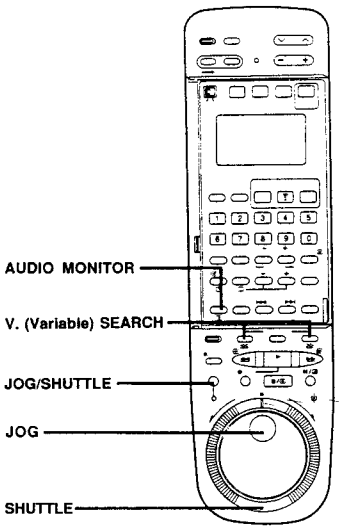
Skip Search (Remote Control)

Your recorder offers a simple way of skipping over unwanted sections of recorded TV programmes.

During Playback:
1. Press SKIP from 1 to 4 times.
   This fast-motions through 30-sec. to 2-min. of tape.
   - Playback resumes automatically.
   - Press ► (Play) to cancel a Skip Search midway.

The recorder's Jog/Shuttle controls function in the same way as those on the remote control.





NOTES:
- If noise bars appear during slow motion, correct using manual tracking. ☞ p.66.
- During variable-speed search, some noise bars will appear.
- When playing back LP recordings in the search, still, or frame-by-frame playback mode, the picture will be distorted, and there may be a loss of colour.

Variable-Speed Search, Slow Motion, And Jog Control

You can view pictures in slow to fast motion, or frame-by-frame, in either direction.

During Play or Still:
1. Press JOG/SHUTTLE.
   - The LED indicator will light.
2. Turn the outer ring (SHUTTLE) in either direction. The farther the ring is rotated, the faster the search speed. Releasing the ring stops the picture in the Still mode.

or

1. Press either V.SEARCH button. Tape will move in the corresponding direction.
   - The more times the button is pressed, the faster the search speed.
   - To decrease speed, press the button for the opposite direction.

During Play or Still:
1. Make sure that the LED indicator is lit.
   - If not, press JOG/SHUTTLE.
2. Turn the inner dial (JOG) in either direction for jog control. The tape moves forward or backward frame-by-frame at the speed with which the dial is turned.

To resume normal playback, press ► button.

Soundtrack Selection

Your video recorder is capable of recording three soundtracks (HIFI L, HIFI R and NORM) simultaneously, and playing back the selected soundtrack.

- Pressing AUDIO MONITOR (on the remote control) changes the channel:

  L+R → L → R

- Pressing Hi-Fi/NORM/MIX (on the recorder) changes the track:

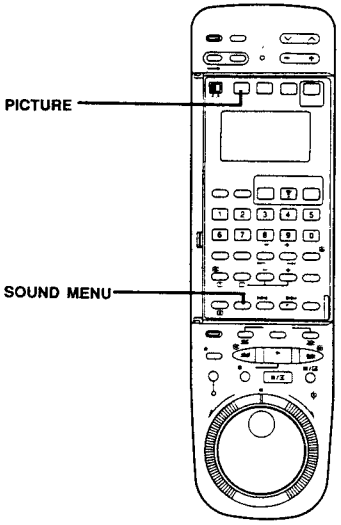
  HIFI → NORM → MIX

Usual settings

HIFI L + R	:	for Hi-Fi stereo tapes
HIFI L or HIFI R	:	for bilingual tapes
MIX L + R	:	for audio-dubbed tapes

NOTE:
Normally use the HIFI L + R position. Then Hi-Fi stereo tapes are played back in stereo, and tapes with normal audio only are played back automatically in the NORM mode.

For Playback (cont'd)



Picture Control (Remote Control)

Your video recorder has a built-in video processor that lets you choose the type of playback picture that's best for any given application.

During Play:

1 Press PICTURE as many times as required to reach the desired setting.
- The display panel shows the setting for 5 seconds.

Display Panel	When To Use
ENHANCED	When viewing tapes with noise due to repeated playback, such as rental videos.
TAPE DUB	When editing from or to another recorder.
SOFT PIC	When you want a soft picture.
SHARP PIC	When you want a sharp picture.
OFF	When no modification is required.

Sound Menu (Remote Control)

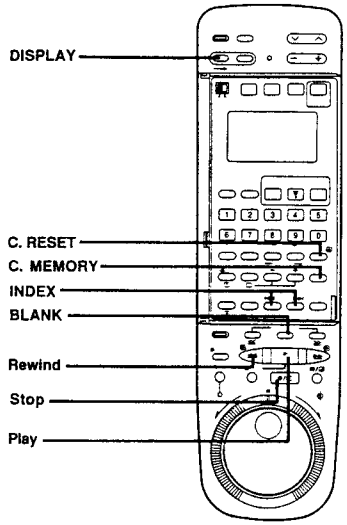
Your recorder has a built-in sound processor that lets you enhance sound reproduction with Stereo Wide or Simulated Stereo effects. You can apply these effects not only to tape playback sound, but to TV signals received via the recorder's built-in tuner or external signals applied to the recorder's input connectors.

1 Press SOUND MENU as many times as required to reach the desired setting.

VCR Display	When to use
MUSIC - / ST WIDE	When viewing stereo music programs.
THEATER - / ST WIDE	When viewing stereo films.
MUSIC - / SIM STEREO	When viewing monaural music or sports programs.
THEATER - / SIM STEREO	When viewing monaural films.
OFF	When no modification is required.

NOTE:
- Sound Menu effects are available only with AV connection (☞ p.54). With only RF connection, Sound Menu effects are not available.

For Tape Access



NOTES:
- Press ► (Play) or ■ (Stop) to cancel Index Search or Blank Search.
- If the end of the tape is reached during Index Search, the mode is cancelled and the tape is rewound to the beginning.
- When a fully recorded tape is used for re-recording new material, Blank Search can be used to detect the end of the new material.

Realtime Tape Counter

Your recorder's tape counter displays the hours, minutes, and seconds of a taped programme. During playback, your recorder's display panel will show a counter reading unless you change it using the DISPLAY button. To reset the counter to "0:00:00" at any time press C. RESET. Also the counter is automatically reset whenever you load a new cassette.

Counter Memory (Remote Control)

During Playback:

1 Press C. RESET at a point you wish to locate later.
- The counter will read "0: 00: 00".

2 Press C. MEMORY.
- "M" will appear in front of the counter digits.

3 When you wish to return to that point, press ■ (Stop) and then press ◄◄ (Rewind).
- The tape will rewind and stop at about "0: 00: 00" automatically.

M 0:00:00

4 To cancel the Counter Memory mode, press C. MEMORY.

Index Search (Remote Control)

This function gives you quick access to any one of 9 index codes in either direction. Your recorder automatically marks index codes at the beginning of each recording.

During Playback or Stop:

1 Press INDEX ⏮ or ⏭. "INDEX –1" or "INDEX +1" will be displayed and search will begin in the corresponding direction.

2 If you wish to access index codes 2 through 9, press INDEX repeatedly until the correct index number is displayed.
- When the specified index code is found, playback will start automatically.

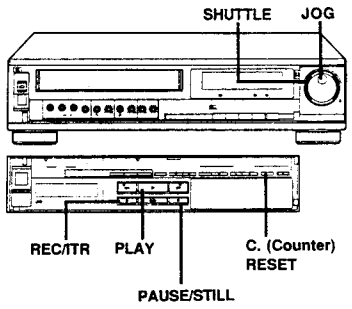
Blank Search (Remote Control)

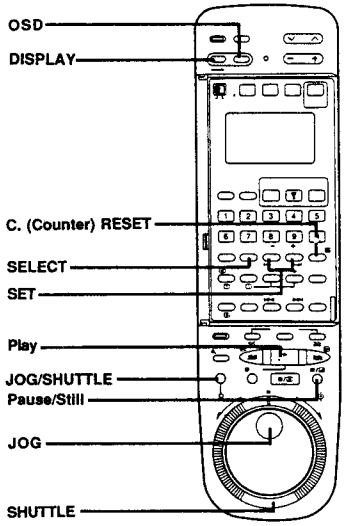
This function lets you quickly locate the blank portion of a partially recorded tape.

During Stop:

1 Press BLANK.
- The recorder automatically fast-forwards or rewinds to the end of the recorded portion of tape, and stops.
- The tape's remaining time is automatically displayed. Press DISPLAY to return to the realtime counter display.

For Recording





NOTE:

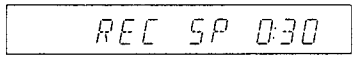
- The remaining time is inaccurate while the display is blinking. When blinking stops, the remaining time is shown.

Instant Timer Recording (Off Timer) (Recorder)

You can start a recording and then set the recorder to shut off automatically after a set duration.

During Record:

1. Press REC/ITR (on the recorder). A "REC SP 0:30" or "REC LP 0:30" indication appears, advising that power will switch off after 30 minutes.



- "ITR 0:30" will be displayed on the TV screen.

2. Press REC/ITR again to delay the off-time by 30-minute increments (up to 4 hours).
   - For a more precise setting, use the SELECT/SET buttons on the remote control unit to set the exact time required (possible up to 8 hours and 59 minutes).

Retake (Recorder and Remote Control)

You can cut out unwanted parts of a TV programme while you're recording it.

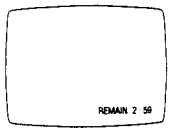
During Record:

1. Press PAUSE/STILL.
2. Turn the JOG dial or SHUTTLE ring in either direction to locate the beginning of the unwanted part.
   - When using the remote control unit, first press the JOG/SHUTTLE button so that the LED indicator lights.
   - Release the dial or ring to return to the Record-Pause mode.
3. Press PLAY when you wish to resume recording.

Remaining Tape Time Indication (Remote Control)

When you need to know the tape's remaining time.

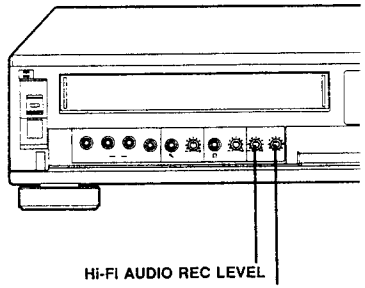
1. Press DISPLAY until "REMAIN" appears on the screen. Approximate remaining tape time is displayed.
2. To clear the screen, press OSD.
   - The display panel also shows remaining tape time, but, during recording, changes back to the "REC" mode display after 5 seconds.

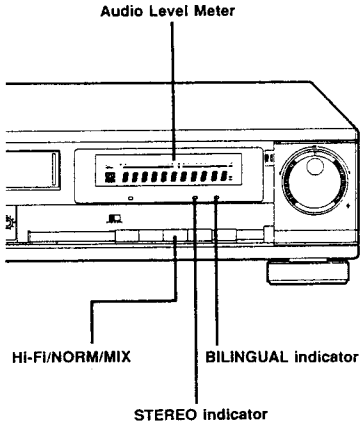


Elapsed Recording Time Indication (Remote Control)

When you need to know the exact time of a recording.

1. Press C. (Counter) RESET to reset the counter to "0:00:00" and then start recording.
2. Press DISPLAY anytime when you want to check the elapsed recording time.
3. To clear the screen, press OSD.





Hi-Fi Audio Recording Level Control

In most cases, setting the Hi-Fi AUDIO REC BALANCE and LEVEL controls to the center position will provide satisfactory results. If necessary, you can adjust the Hi-Fi audio recording level more precisely by referring to the audio level meter above the message display.

- Turn the BALANCE control to adjust the balance between left and right channels.
- Turn the LEVEL control to adjust the level. When the level meter lights up to or near 0 dB with the loudest signal being applied, the recording level is optimum.

NOTES:

- Make sure that the "HIFI L + R" position is selected with the AUDIO MONITOR button. ☞p.67.
- Noise will increase if the recording level is too low, while distortion will increase if the level is too high.

Stereo And Bilingual

Your recorder is equipped with a Sound-Multiplex decoder for reception of stereo and bilingual broadcasts.

- When a stereo programme is being received, the STEREO indicator lights.
- When a bilingual programme is being received, the BILINGUAL indicator lights.

To Record Stereo Programmes

Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound). No special operation is required. Simply follow the basic recording procedure.

- To listen to the stereo soundtrack while recording, select "HIFI L+R" with AUDIO MONITOR. ☞p.67

NOTE:

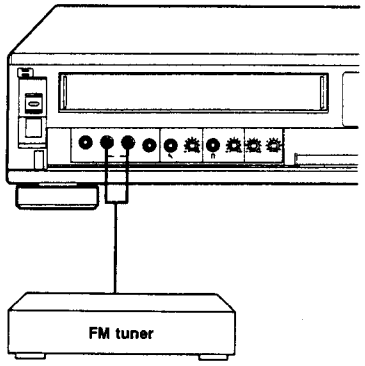
- If the quality of stereo sound being received is poor, the STEREO indicator will go off, and the broadcast will be received in monaural with better quality.

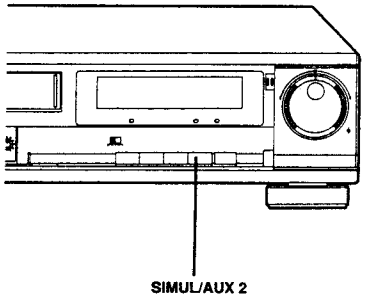
To Record Bilingual Programmes

Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

- To listen to the Hi-Fi soundtrack during recording, select "HIFI L" for Main, and "HIFI R" for Sub.
- To listen to the normal soundtrack, select "NORM" with the Hi-Fi/NORM/MIX button on the recorder.

For Recording (cont'd)





Simulcast Recording

Your recorder lets you record an audio programme while recording a TV programme. In the Simulcast mode, the TV soundtrack is recorded on the normal audio track and the external audio programme is recorded on the Hi-Fi audio track, so you can have two independent programmes. If FM simulcast TV programmes are available, record the TV programme and its FM-broadcast soundtrack simultaneously.

PREPARATION

1. Connect the FM tuner to the rear panel AUDIO IN or front panel A (L, R) connectors.
   - Front panel connections have priority.
2. Set the FM tuner to the desired broadcast.

PROCEDURE

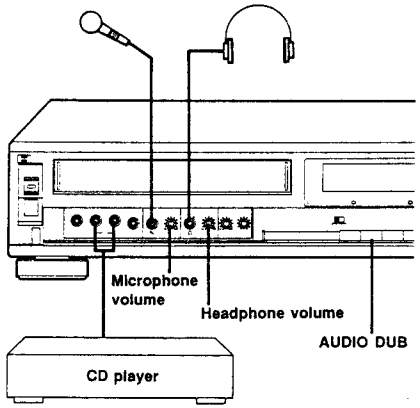
3. Select the TV programme you wish to record.
4. Select the SIMULCAST mode by pressing the SIMUL/AUX 2 button.
5. Start recording.

NOTES:

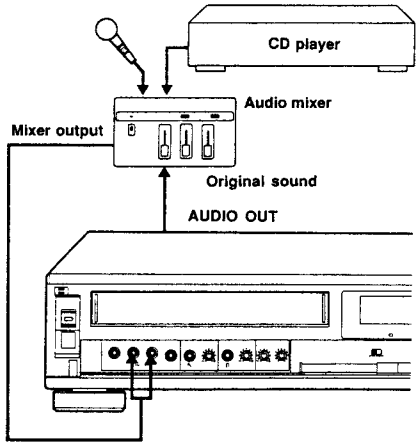
- If you stop recording with the PAUSE/STILL button to avoid unwanted TV programme material, the audio programme is also cut.
- After finishing simulcast recording, be sure to press the SIMUL/AUX 2 button to cancel the Simulcast mode, otherwise it is not possible to record on the Hi-Fi track from the built-in tuner.

Your video recorder is well equipped to modify your recorded tapes into more attractive compositions.

Simple audio dubbing

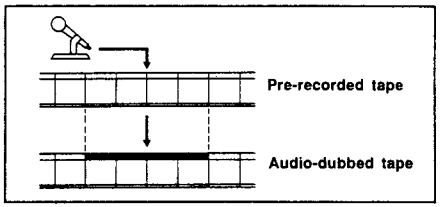


With audio mixer



NOTE:

- Audio dubbing is not possible with cassettes whose safety tab has been removed.



Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack. Add your personal touch by recording commentary, etc.

PREPARATION

1. Connect a microphone to the MIC jack.
2. Select the AUX INPUT 2 mode. (First engage the AUX INPUT mode with TV PROGRAM, then press SIMUL/AUX 2.)

PROCEDURE

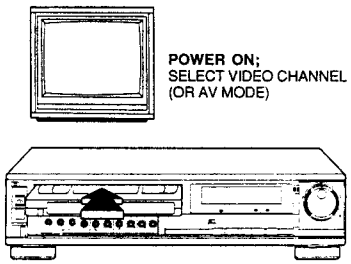
3. Adjust the input level with the microphone volume control.
4. Start playback and engage the Still mode at the point from which you wish to start audio dubbing.
   - Turn the SHUTTLE ring in either direction to quickly locate the desired scene. Simply release the SHUTTLE ring, and the Still mode will be engaged automatically.
   - Then turn the JOG dial for more precise location of the audio dubbing start point.
5. Press the AUDIO DUB button.
6. Press the PLAY button.
   - Audio dubbing will start.
7. Press the PAUSE/STILL button to stop audio dubbing temporarily.

NOTES:

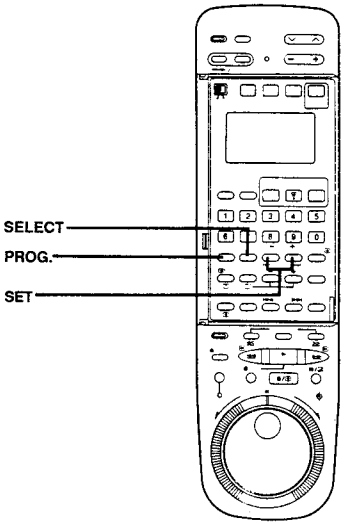
- When monitoring the sound during Audio Dubbing, the normal soundtrack will be automatically selected. If you wish to hear the mixed sound (Hi-Fi + normal soundtracks), press the Hi-Fi/NORM/MIX button to select the MIX mode. ☞ p.67.
- Audio dubbing will stop automatically at the counter reading of "0:00:00", and the recorder will enter the Play mode. Check the counter before starting audio dubbing.
- If you wish to use audio sources other than microphone input, connect the audio equipment to the front panel A (Audio) or rear panel AUDIO IN connectors. (Front panel connections have priority ☞ p.85. For monaural equipment, use the L connector.) If both the microphone and another audio source are connected, mixed recording is possible.
- Audio dubbing is also possible with input via the 21-pin AUDIO/VIDEO socket. In this case, use the AUX INPUT mode.
- If howling occurs, move the microphone away from the TV or reduce the TV sound volume. If necessary, monitor the sound with headphones.
- After finishing audio dubbing in the AUX INPUT 2 mode, be sure to press the SIMUL/AUX 2 button, otherwise the SIMUL mode will be engaged when you start recording of TV programmes.

For Timer-Recording

The on-screen and LCD timer programming methods are introduced here. Both have different advantages. With on-screen programming, you can follow easy-to-see guides on your TV screen. With LCD programming, you can transfer the programmed data to the recorder anytime when necessary. TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.



POWER ON;
SELECT VIDEO CHANNEL
(OR AV MODE)



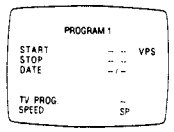
On-Screen Timer Programming

A LOAD A CASSETTE

1 Insert a cassette with the safety tab in place.
- The recorder power will come on automatically.

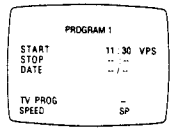
B ACCESS THE ON-SCREEN PROGRAM DISPLAY

2 Press PROG.
- You are ready to input data into Program No. 1.
- To change the program number (1 – 7), press SET.



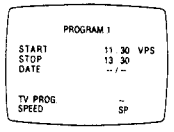
C INPUT THE START TIME

3 Press SELECT, and then SET to input the hour.
4 Press SELECT, and then SET to input the minute.



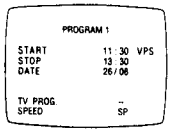
D INPUT THE STOP TIME

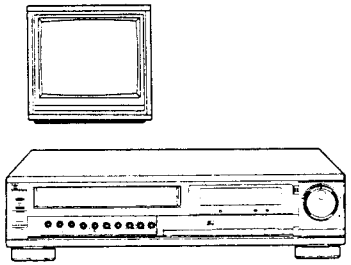
5 Press SELECT, and then SET to input the hour.
6 Press SELECT, and then SET to input the minute.

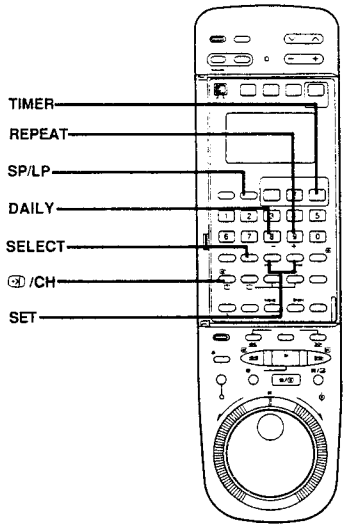


E INPUT THE DATE

7 Press SELECT, and then SET to input the day.
8 Press SELECT, and then SET to input the month.





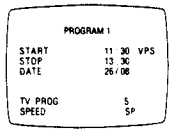


CAUTION:
Make sure that the tape length is enough to record the intended programme. If the tape finishes before the stop time is reached, the cassette is automatically ejected. If the recorder is placed inside a rack, there must be sufficient clearance to allow the front panel cover to open unobstructed.

NOTE:
The data you input will also be shown on the message display pannel.

F INPUT THE CHANNEL NUMBER

9 Press SELECT, and then SET to input the channel.
- The screen colour changes to green.
- Normally, you should leave "VPS" on so you can take advantage of VPS recording. You can cancel VPS by pressing the /CH button whenever the memory program is open. If you have any questions about VPS, ☞p.78.



G SELECT THE TAPE SPEED

10 Press SELECT, and then SP/LP.

H END ONE PROGRAM

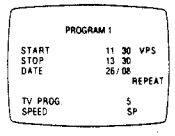
11 Press SELECT.
- The program number will blink.
- To make corrections, advance with SELECT to the item you wish to change and input new data with SET.
- If you need to set another program, press SET and repeat steps C through H.

I SET TO TIMER MODE

12 Press TIMER.
- The recorder will enter the timer mode and power will go off.
- Press TIMER again to release the timer mode.

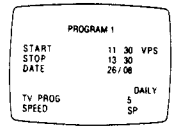
Variations in Step E (Weekly Program)

This function lets you set the recorder to timer-record at the same time on the same day every week. Use it to record weekly serials.
- First press REPEAT (numeric key "9") and then enter the date.



Variations in Step E (Daily Program)

This function lets you set the recorder to timer-record at the same time everyday. Use it to record daily serials.
- To record a daily serial starting on the day of setting, press DAILY (numeric key "8") and then press SELECT.
- To record a daily serial starting on a certain day, press DAILY and then enter the date.

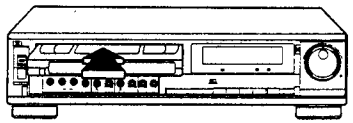


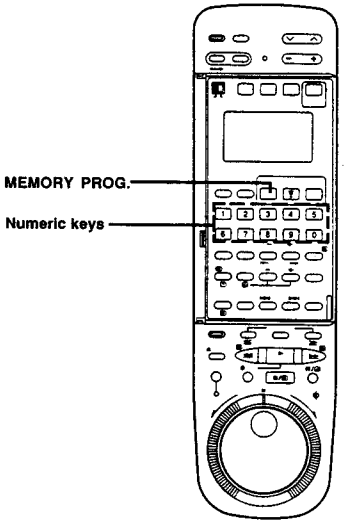
TO MAKE CORRECTIONS

Press SELECT so that the item you want to change blinks, and press SET to set the new data.

Any questions? ☞ p.78.

For Timer-Recording (cont'd)





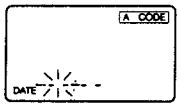
LCD Timer Programming

A LOAD A CASSETTE

1 Insert a cassette with the safety tab in place.
- The recorder power will come on automatically.

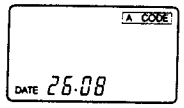
B ACCESS THE LCD TIMER PROGRAM

2 Press MEMORY PROG.



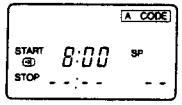
C INPUT THE DATE

3 Press the appropriate numeric keys.
- Example: For 26th August, press 2 6 0 8.



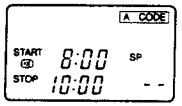
D INPUT THE START TIME

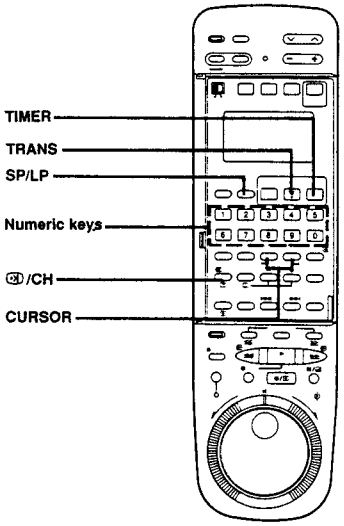
4 Press the appropriate numeric keys.
- Example: For 8:00, press 0 8 0 0.



E INPUT THE STOP TIME

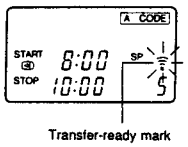
5 Press the appropriate numeric keys.
- Example: For 10:00, press 1 0 0 0.





F INPUT THE CHANNEL NUMBER

6 Press the appropriate numeric keys.
- Example: For channel 5, press 5.
- After the channel has been entered, the transfer-ready mark will appear and blink.
- Normally, you should leave " CH " on so you can take advantage of VPS recording. You can cancel VPS by pressing the CH button whenever the memory program is open. If you have any questions about VPS, ☞p.78.



G SELECT THE TAPE SPEED

7 Press SP/LP.

H TRANSFER THE DATA TO THE RECORDER

8 Press TRANS with the remote control directed to the recorder's Remote Sensor window.
- You will see "PROGRAM 1" on the display panel, telling you that the data has been successfully transferred to the recorder's Program 1 memory.

I SET TO TIMER MODE

9 Press TIMER.
- The recorder will enter the timer mode and power will go off.
- To disengage the timer mode, press TIMER again.
- To return to the clock display, press MEMORY PROG.

Variations in Step C (Weekly Program)

This function lets you set the recorder to timer-record at the same time on the same day every week. Use it to record weekly serials.
- First press numeric key "9" (REPEAT) and then enter the date.

Variations in Step C (Daily Program)

This function lets you set the recorder to timer-record at the same time every day. Use it to record daily serials.
- To record a daily serial starting on the day of setting, press numeric key "8" (DAILY) and then press CURSOR → until the display changes to time input mode.
- To record a daily serial starting on a certain day, press numeric key "8" (DAILY) and then enter the date.

TO MAKE CORRECTIONS

During steps C – F, press either CURSOR button so that the item you want to change blinks, and enter new data.

Any questions? ☞ p.78.

For Timer-Recording (cont'd)

On Checking And Cancelling Programs

Since executed programs are automatically cleared from memory (except those for daily and weekly serials), cases where the entire memory is full should be rare. If this should happen, check the preset programs and cancel one or more to make room for the new program(s) you wish to input.

TO CANCEL A PROGRAM

1. Press PROG.
   - Program 1 is displayed with the number blinking.
2. Press SELECT to review the program contents in succession.
3. Press CANCEL to erase the program from memory.
   - You can press CANCEL at any stage while the program is open.
   - To erase another program, press SET when a blinking program number is displayed.

NOTE:

Cancelling programs is also possible using the remote control and on-screen display. Press PROG. and check the program contents on the screen using SELECT and SET. Press CANCEL while an unnecessary preset program is on the screen.

Some Facts On Timer Operation

- If the end of the tape is reached during timer-recording, the cassette is automatically ejected and recorder's power is switched off with "TIMER REC" and "TAPE END" flashing alternately on the message display panel.
- When timer-recording is successfully completed, the recorder's power is automatically switched off.
- Since the timer starts and stops recording based on the time being kept by the recorder's built-in clock, the clock's time must be accurate for correct timer-recording results.

VPS Recording

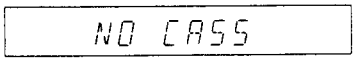
Now available from some TV stations, VPS (Video Program System) is a service designed to assure safe, accurate timer-recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over times you preset in the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

TO USE VPS SERVICE

- For each timer program, the initial setting is "VPS ON" and you will see "VPS" on the display panel together with a channel number. You do not have to cancel "VPS" even for non-VPS programmes, because those programmes will be recorded at the preset times.
- To cancel "VPS", press the ⊙/CH button. Pressing the ⊙/CH button alternates the setting, and "VPS ON" or "VPS OFF" is displayed for 2 seconds.
- When you open the LCD timer memory, the LCD display always shows " ⊙ ". To cancel " ⊙ ", press the ⊙/CH button before transferring the memory data to the recorder.

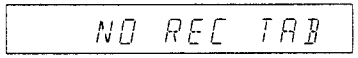
Error Messages

The following error messages may appear on the message panel when you press the TIMER button to engage the Timer Standby mode. Here's why, and what you should do.



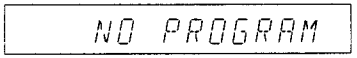
- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: There is no cassette in the recorder.
WHAT TO DO: Insert a cassette. Press TIMER again.



- Displayed for 5 seconds. The Timer Standby mode is cancelled.

WHY: The inserted cassette has its safety tab removed.
WHAT TO DO: Eject that cassette. Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. Press TIMER again. ☞p.61.

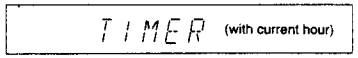


- Displayed for 5 seconds. The Timer Standby mode is cancelled.

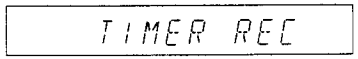
WHY: There are no preset programs in memory.
WHAT TO DO: Check the programmed data and re-program it as necessary. Press TIMER again.

Other Messages

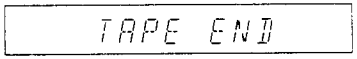
The following messages may also be encountered during timer-recording.



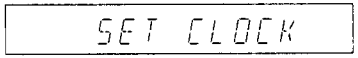
WHY: The recorder is in the Timer Standby mode. This is the normal display you should see when you press the TIMER button.



WHY: Normal display while timer-recording is in progress.



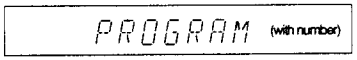
WHY: If this and "TIMER REC" are alternately displayed, it means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.



WHY: This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the recorder's power plug was pulled from the AC outlet.
WHAT TO DO: Set the clock. ☞p.56.

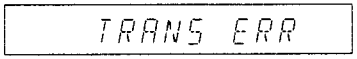
- If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

The following messages may be encountered when the TRANS button of the remote control is pressed. ☞p.77.



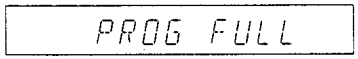
- Displayed for 5 seconds.

WHY: The transferred data has been stored in that program number. (The smallest vacant program number is always selected automatically.)



- Displayed for 5 seconds.

WHY: Data was not successfully transferred. The program may have been incorrectly preset, or the recorder's clock has not been set.
WHAT TO DO: Check the LCD program, and re-program as necessary. Transfer the correct data.



- Displayed for 5 seconds.

WHY: All the recorder's timer programs (1 – 7) are preset.
WHAT TO DO: Cancel unnecessary programs, and transfer again.

For Convenience

Setting The Clock Forward Or Backward By One Hour (Daylight Saving Time Adjustment)

TO ADVANCE THE TIME BY ONE HOUR

1. Press the remote control's SUMMER TIME ADJUST button and quickly release.
2. Press the TRANS button.
   - The revised time is transferred to the recorder.

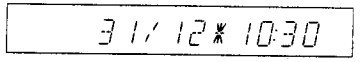
TO SET THE TIME BACK BY ONE HOUR

1. Keep SUMMER TIME ADJUST pressed for more than 2 seconds.
2. Press the TRANS button.
   - The revised time is transferred to the recorder.

Locking The Recorder's Controls

To avoid unwanted operation and prevent accidental recording or other interference, use the Child Lock function.

1. Press the remote control's OPERATE (VTR) button to turn the recorder's power off. Keep this button pressed for about 2 more seconds after the power LED indicator has gone off.
   - The Child Lock indicator (⚷) will appear between the date and time on the display panel.



2. Child Lock is automatically deactivated when you switch the recorder's power on again with the remote's OPERATE (VTR) button.
   - Pressing the TIMER button during timer-recording also deactivates the Child Lock mode.

NOTES:

- While the Child Lock mode is engaged, make sure you keep your remote control in a safe place inaccessible to children.
- Timer-recording is possible in the Child Lock mode. After timer-recording has been performed, the Child Lock mode remains in effect.

Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to your remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals (indicated by " A CODE " on the LCD) because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1. Unplug the recorder's power cord from the AC outlet.
2. Set the A/B CODE switch to B. (" B CODE " will appear on the LCD.)
3. Plug the power cord back into the AC outlet. Do not use other remote controls at this stage.
4. Turn the recorder power on using the remote control's OPERATE (VTR) button. The recorder will now only respond to B code signals.

NOTE:

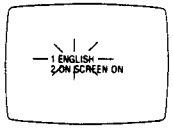
Some TV sets may malfunction in response to the B mode. If this happens switch back to the A mode.

On-Screen Set Up

Language Select

Although the preset on-screen language is English, you can set your video recorder to display on-screen messages in a choice of 10 languages (ENGLISH, DEUTSCH, FRANCAIS, ITALIANO, ESPANOL, NEDERLANDS, SVENSKA, NORSK, SUOMI, and DANSK).

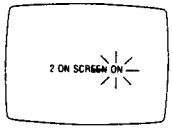
1. Press OSD on the remote control for longer than 2 seconds.
2. Press SET + or – until your desired language is displayed.
3. Press OSD while the language is blinking.



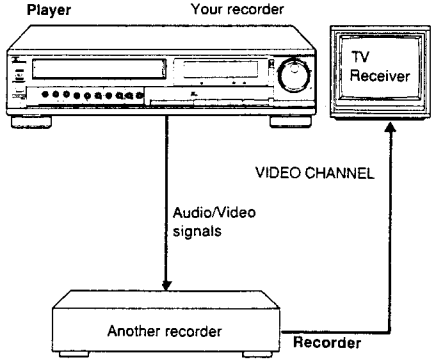
On-Screen Display Function ON/OFF

If you do not want on-screen displays, the function can be cancelled.

1. Press SELECT after step 1 above.
2. Press either SET button.
3. Press OSD while the status is blinking.
   - Even with the function set to OFF, "PAUSE" is displayed for as long as the Pause mode is engaged. Of course, on-screen timer programming is not affected either.



For Editing



Editing To Another Recorder

In tape-to-tape editing, your recorder can also be used as the playback unit.

PREPARATION

1. Connect your recorder's AUDIO/VIDEO to the audio and video input connectors of the recording deck.
2. Load the source tape in the player and the recording tape in the recorder.
3. Select the TAPE DUB mode with the remote's PICTURE button. ☞ p.68
4. Engage the recorder's AUX mode.

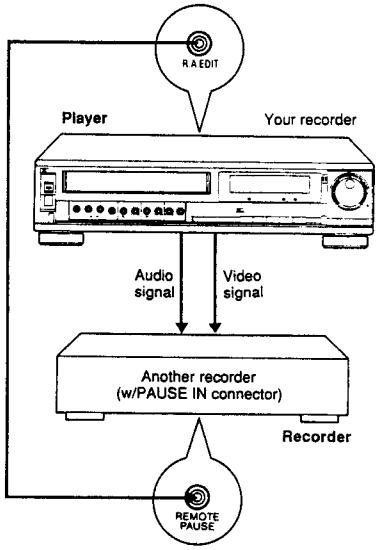
OPERATION

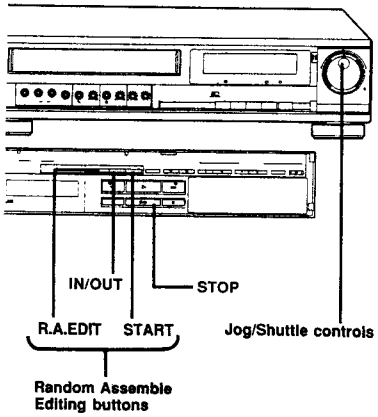
5. Put the recorder in the Record-Pause mode.
6. Play back the source tape to search for a scene to be edited.
   - Turn the SHUTTLE ring in either direction to quickly locate the desired scene. Simply release the SHUTTLE ring, and the Still mode will be engaged automatically.
   - Then turn the JOG dial for more precise location of the scene to be edited.
7. Press both the player's and recorder's PLAY buttons simultaneously.
8. Press the recorder's PAUSE button to stop editing.
9. Repeat steps 6 through 8 to continue editing.

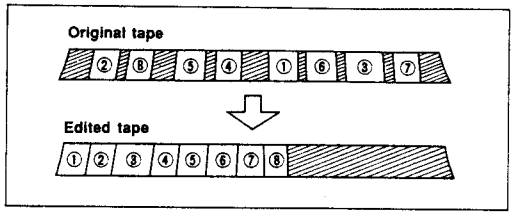
NOTE:

- If you do not want to record on-screen messages on the edited tape, cancel the on-screen display. ☞ p.80

For Editing (cont'd)







Random Assemble Editing

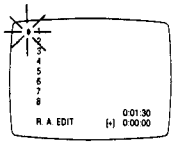
This function makes it easier to create edited videos when your recorder is used as the source player in combination with another video deck which is equipped with a PAUSE (i.e. remote PAUSE IN) terminal. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified.

PREPARATION

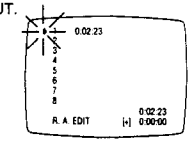
1. Connect your recorder's AUDIO/VIDEO to the audio and video input connectors of the recording deck.
2. Connect your recorder's R.A.EDIT connector to the recording deck's PAUSE connector.
3. Turn both units on.
4. Engage the recorder's AUX mode.

OPERATION

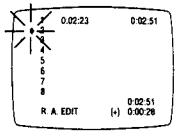
5. Insert a recorded cassette into your recorder, and insert a cassette (with safety tab intact) into the recording deck.
6. Play back the tape in your recorder.
7. Press the R.A.EDIT button.
   - On-screen display is superimposed on the video playback.



8. Use the Jog/Shuttle to search for the point where you want an edited scene to start, and press IN/OUT.
   - The cut-in point is registered in memory.

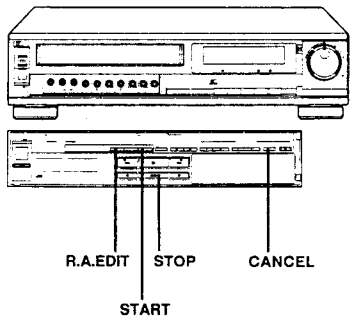


9. Use the Jog/Shuttle to search for the point where you want the scene to end, and press IN/OUT.
   - The cut-out point is registered in memory.
   - The total reading "[+]" displays the total running time of the edited scenes.

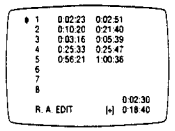


10. Specify additional scenes by repeating steps 8 – 9.
11. Put the recording deck in the Record-Pause mode.

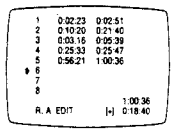
Continued on next page.



12. Press START.
    - The function begins automatic editing; all the specified scenes are copied to the recording deck in sequential order.
    - The on-screen display remains superimposed while your recorder searches for each scene (the blinking cursor points to the scene number presently being searched), and is not displayed while the scenes are being edited.



    - While a scene is being searched, the recording deck automatically enters the Record-Pause mode.
    - When Random Assemble Editing is finished, your recorder enters the Still mode, the recording deck enters the Record-Pause mode, and the cursor blinks at the next available scene number.

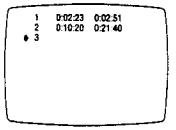


13. Press R.A.EDIT again.
    - The on-screen display disappears.
14. Press STOP on both decks to end Random Assemble Editing.

TO MAKE CORRECTIONS

During step 8 or 9, you can correct a cut-in or cut-out point. Each time the CANCEL button is pressed, the immediately preceding point is cleared and can be re-set.

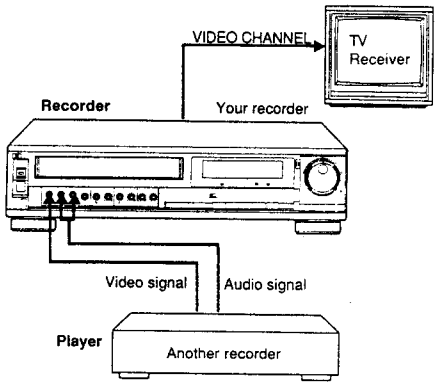
- Example: Here, the cut-out point for "2" can be changed by pressing CANCEL once (to clear it) and re-setting it.By pressing CANCEL more times, you can back up to previous points for re-setting, but all points in between will be cleared in the process. (e.g. To reach the cut-out point for "1", the cut-in and -out points for "2" will be cleared.)

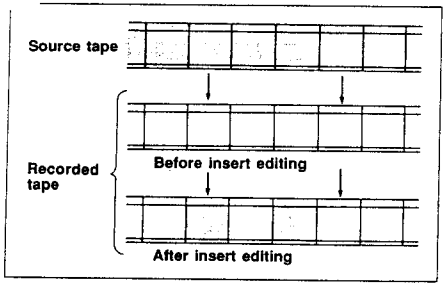


NOTES:

- When editing, there may be a discrepancy of about 2 seconds on the playback tape between the locations you chose as cut-in/out points and the locations the recorder recognizes as those points.
- For any scene, the cut-out point must have a counter reading that is at least 1 second after the cut-in point. A cut-out point with a counter reading less than or the same as the cut-in point will not be registered.
- Since the playback deck prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any cut-in point on the playback tape.
- If the search time for a cut-in point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.

For Editing (cont'd)





NOTES:

- Suitable leads can be obtained from your dealer.
- If you do not want to record on-screen messages on the edited tape, cancel the on-screen display. ☞ p.80
- Insert editing is not possible with cassettes whose safety tab has been removed.
- Insert editing cannot be started from a non-recorded segment.
- In insert editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.

Editing From Another Recorder

Tape-to-tape editing is possible using another deck as the playback unit and your recorder as the recording unit.

PREPARATION

1. Connect another video recorder to your recorder.
   - To select the input connectors and the corresponding external input mode, refer to the table on next page.
2. Engage the external input mode.
3. Select the TAPE DUB mode with the remote's PICTURE button. ☞ p.68

OPERATION

4. Load the source tape in the player, and the recording tape in your recorder.
5. Select the recording speed (SP or LP).
6. Put your recorder in the Record-Pause mode.
7. Play back the source tape to search for scene to be edited.
8. Press the recorder's PLAY button where you want to start editing.
9. Press the recorder's PAUSE button to stop editing.
10. Repeat steps 7 through 9 to continue editing.

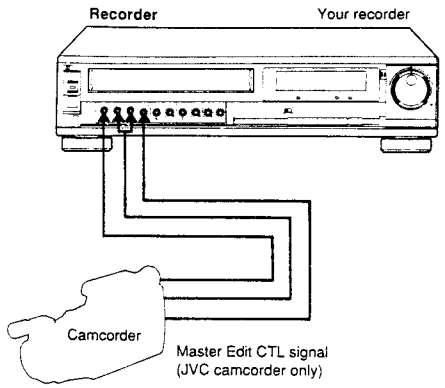
Insert Editing

OPERATION

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously.

Follow the above "Preparation" instructions and then...

1. Load the source tape in the player, and the recording tape in your recorder.
2. Play back the recording tape and determine the edit-out point (the end of the segment to be replaced) using the JOG/SHUTTLE controls.
   - Releasing the JOG/SHUTTLE controls engages the Still mode.
3. Press C. RESET. (0:00:00)
4. Determine the edit-in point (the beginning of the segment to be replaced) using the JOG/SHUTTLE controls.
5. Press INSERT. (Insert-Pause mode)
   - For simultaneous replacement of the normal audio soundtrack, press AUDIO DUB as well.
   - The TV screen changes from the still picture to the input signal you are going to record.
6. Play back the segment of the source tape to be inserted.
7. Press PLAY.
   - Insert editing will start. At counter 0:00:00, insert editing will stop automatically while the tape continues running in the Play mode.
   - If you wish to stop insert editing before the specified edit-out point, press C. RESET.



Editing From A Camcorder

Tape-to-tape editing is also possible using a JVC camcorder (equipped with playback facility) as the player and your recorder as the recording deck. In this case, the recorder's REMOTE PAUSE terminal can be used to accept Master Edit Control commands from the camcorder.

PREPARATION

1. Connect the camcorder's AV OUT connector to the recorder's front panel INPUT connectors.
2. Connect the AV output cable's mini-plug to the REMOTE PAUSE terminal of the recorder.
3. Select the FRONT AV mode (refer to the table below).
4. Select the TAPE DUB mode with the remote's PICTURE button. ☞ p.68
   - If the comcorder is equipped with the Master Edit Control system, you can control the recorder using the camcorder's controls. See the camcorder's instruction manual for operating procedures.
   - With this connection, you can also use the camcorder as a video camera for direct recording onto the recorder's tape. Put the recorder in Record-Pause and use the camcorder's start/stop trigger to start and pause recording. (For direct recording with a separate video camera, a camera adapter is necessary.)

How To Select The External Input Mode

	Connector	Procedure	Display Panel
REAR	AUDIO/VIDEO	Press TV PROGRAM or remote's "0" key.	AUX INPUT
	AUDIO/VIDEO and AUDIO IN L, R*	Press SIMUL/AUX 2 while in the AUX INPUT mode.	AUX INPUT 2
FRONT	V (Video) and A (Audio) L,R	Press TV PROGRAM or remote's "0" key.	FRONT AV

* Video signal via AUDIO/VIDEO; audio signal via AUDIO IN L, R.

NOTES:

- Connections made to the front panel Video and Audio inputs automatically override the rear panel input connection. If you wish to edit with another machine connected to the rear input connector, make sure that there is nothing connected to the front connectors.
- Use the L connector for monaural connection.

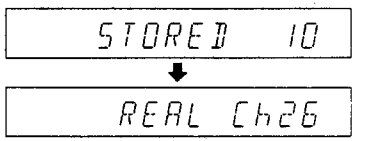
For Reception

Changing Preset Channels

TO CHECK STORED REAL CHANNELS

Use the remote control. First turn on the recorder.

1. Press TV PROG. (VTR) to select the channel position of the stored real channel whose number you want to know. (e.g. PR. 10)
2. Press CH.



- This indicates that channel position 10 stores real channel 26.

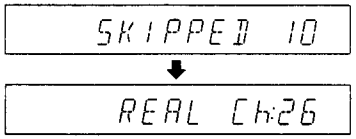
3. To check other channel positions, press TV PROG. (VTR).
   - Either "STORED xx" or "SKIPPED xx" will appear, followed by "REAL Ch xx" or "REAL CC xx".
4. The Channel Set mode will be cancelled in about 60 seconds unless you call up another channel position. Do not press the CH button; this alternates between Ch and CC bands.

TO DELETE STORED CHANNELS

Use the remote control. First turn on the recorder.

1. Press TV PROG. (VTR) to select the channel position you want to skip. (e.g. PR. 10)
2. Press CH.

3. Press SKIP.

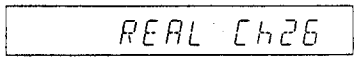


- This indicates that real channel 26 has been deleted from channel position 10.

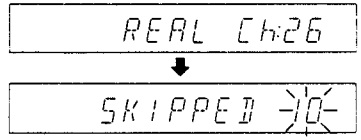
TO STORE NEW CHANNELS

Use the remote control. First turn on the recorder.

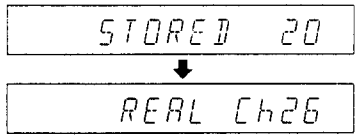
1. Press CH.



2. Press CH again and keep it pressed until the real channel number starts blinking.
3. Press CH to change the band between Ch and CC, if necessary.
4. Press numeric keys to input the number of the real channel you want to store. (e.g. Ch 26.)



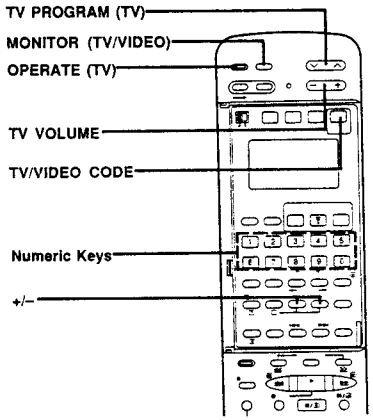
5. Press numeric keys to input the number of a vacant channel position (e.g. 20), and hold the key for the 2nd entry until the display changes to "STORED 20".



- The Channel Set mode will be cancelled automatically after about 60 seconds.

Using The Remote Control For TV Operation

The provided remote control can operate the basic functions of your television. In addition to JVC televisions, other manufacturers' televisions listed here can also be controlled by setting the remote control to the corresponding TV code. The remote control's default code is "1", which enables control of most JVC televisions without re-setting. If your JVC television is equipped with 10+ and 20+ buttons on its remote control, you have to set the TV code to "2".



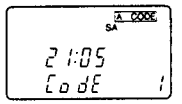
CODE	TV BRAND NAME
1	JVC
2	JVC
3	BRANDT NORDMENDE SABA TELEAVIA TELEFUNKEN THOMSON
4	FERGUSON
5	PHILIPS
6	BLAUPUNKT GRUNDIG
7	SONY
8	PANASONIC
9	PANASONIC
0	GRAETZ ITT LUXOR SALORA SELECO

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many TV models manufactured by others, it is possible that the provided remote control will not work with your TV, or in some instances, will have limited function capability.

Setting The TV Code

1. Press TV/VIDEO CODE for longer than 2 seconds.
   - The LCD will show the current code (initially "Code 1").
2. Press a numeric key corresponding to the code number for your TV's brand.
   - The LCD will return to the clock mode after 2 seconds.



NOTES:

- TV code setting is not possible unless the clock has been set.
- Whenever you replace batteries in the remote control or initialise the LCD memory (☞p.51), it is necessary to re-set the TV code, if your television is not a Code 1 JVC TV.

To Control Your Television With Buttons Exclusively For TV

- Press OPERATE (TV) to turn the TV power on.
- Press MONITOR (TV/VIDEO) to switch the TV between TV and VIDEO (or AV) mode.
- Press TV PROGRAM (TV) to select the TV's channel.
- Press TV VOLUME to adjust the TV's sound volume.

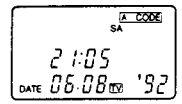
NOTES:

- The TV PROGRAM (TV) button does not function with televisions using Code 3.
- The MONITOR (TV/VIDEO) button does not function with televisions using Code 4.
- With some televisions, the OPERATE (TV) button functions only to turn the TV power off, and the MONITOR (TV/VIDEO) button functions only to switch the TV to the VIDEO (AV) mode.

To Control Your Television With Additional Buttons

The numeric keys can also be used to select the TV's channel by setting the remote control to the TV mode.

1. Press TV/VIDEO CODE.
   - "TV" will appear on the LCD.
2. Use the numeric keys and +/– to select the TV's channel while "TV" is on the LCD.
   - With televisions using Code 1, 4, 5, 7, 8 or 9, both the +/– buttons correspond to the 1-digit/2-digit entry switching button (often labelled -/--) of your TV's remote control.
   - With televisions using Code 2, 6, or 0, the – button corresponds to the 10+ button, and the + button, to the 20 + button of your TV's remote control.



NOTE:

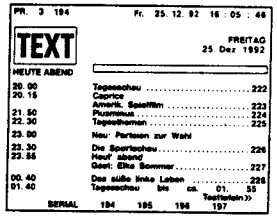
The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

Using The Optional Teletext Adapter

Teletext services have established themselves as one of the most flexible sources of information and broadcast schedules available to TV and video users. Your video recorder is ready to take full advantage of these services. By connecting an optional teletext adapter (☞ Specifications), you'll not only be able to view the vast number of teletext pages now available, you'll be able to transfer broadcast schedule data directly to your recorder's timer for instant, automatic timer programming. You'll also be able to make full use of your remote control's capabilities, with all the dual or triple function controls working as intended. Here are just a few examples of features available to you when you connect an optional teletext adapter.

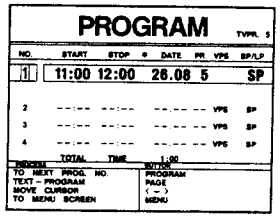
TELETEXT

- View broadcast teletext pages.
- Several page access modes are available for quick, convenient location of pages you want to see.
- You can program the video recorder's timer directly using TV schedule pages.



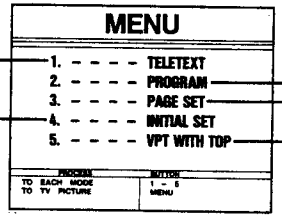
PROGRAM

- Check timer recording data on the colour on-screen display.
- Program the timer manually with the remote's numeric keys.



PAGE SET

- You can preset favourite or often-referred-to pages for immediate access.
- Up to four pages can be stored on each of the numeric keys, for a total of 40 pages.



VPT WITH TOP

- TOP automatic teletext timer programming.
- Convenient colour-coded page access.
  "5.- - - - VPT WITH TOP" only appears when the video recorder's tuner is tuned to a station transmitting TOP broadcasts. (Applicable only in certain areas.)

INITIAL SET

LANGUAGE

- Select one of four languages (English, German, Italian, or Swedish) for on-screen messages.

CLOCK ADJUST

- Set the recorder's clock manually using the numeric keys.
- Set the recorder's clock automatically by reading teletext time information.

ATTENTION

Some buttons on the remote control unit are labelled with pictograms indicating the functions that can be used when the VPT adapter is connected. When reading the VPT adapter's instruction manual, keep in mind the correspondence between these pictograms and the labels referred to in the instruction manual:

- : LARGE/NORMAL
- : REVEAL
- : TIMED PAGE
- : RESET
- : HOLD
- : MIX
- : ROTATE

Display Panel Messages

Messages not appearing elsewhere in this manual are listed here. More common messages are all clearly illustrated in the relevant sections.

Displayed Message	When It Appears, What It Means
During Clock Set	
31/12 10:30	"31st December, 10:30" is successfully transferred.
During Program Set	
VPS ON	"VPS" status is changed from OFF to ON. Displayed for 2 seconds.
VPS OFF	"VPS" status is changed from ON to OFF. Displayed for 2 seconds.
During Channel Set	
REAL CC 02	"Real Channel 02 in CC band" is stored.
REAL CC :15	"Real Channel 15 in CC band" is received, but not stored.
FINE -CC 15	"Fine tuning" is engaged for "Real Channel 15 in CC band".
DECODE OFF	"Decoding" status has changed to "OFF".
During Normal Operation	
SPEED SP	Tape speed is changed from LP to SP. Displayed for 5 seconds.
SPEED LP	Tape speed is changed from SP to LP. Displayed for 5 seconds.
AUDIO DUB	Audio dubbing is in progress.
A DUB P	Audio dubbing is paused.
INSERT	Insert editing is in progress.
INSERT P	Insert editing is paused.
AV DUB	AV dubbing (combined use of insert editing and audio dubbing) is in progress.
AV DUB P	AV dubbing is paused.
AUX INPUT	External input is selected.
AUX INPUT 2	External input 2 is selected by pressing the SIMUL/AUX 2 button from AUX INPUT.
FRONT AV	External input via front panel V/A (L, R) is selected.
SIMULCAST	Simulcast recording is selected by pressing the SIMUL/AUX 2 button. Displayed for 5 seconds.
REC SP AUX	Recording "External Input" via AUDIO/VIDEO in the SP mode.
REC LP AUX	Recording "External Input" via AUDIO/VIDEO in the LP mode.
REC SP AU2	Recording "External Input" via AUDIO IN in the SP mode.
REC LP AU2	Recording "External Input" via AUDIO IN in the LP mode.
PAUSE AUX	Recording is paused during REC SP (or LP) AUX.
PAUSE AU2	Recording is paused during REC SP (or LP) AU2.
VPS REC	VPS recording is in progress.
SKIP	Skip Search is started. Displayed for 5 seconds.
BLANK	Blank Search is started. Changes to REMAIN after 5 seconds.
INDEX + 9	Searching for the 9th index code in the forward direction.
INDEX – 4	Searching for the 4th index code in the reverse direction.
INDEX MARK	Index code is being marked.
REPEAT	Blinking during rewind for Repeat Playback.

Displayed Message	When It Appears, What It Means
During Next Function Memory	
REW – OFF ↩ OFF	Will rewind to the beginning and then shut off automatically.
REW – PLAY ↩ PLAY	Will rewind to the beginning and then start playback automatically.
REW – TIMER ↩ TIMER	Will rewind to the beginning and then enter the timer mode automatically.
REW – EJECT ↩ EJECT	Will rewind to the beginning and then eject the tape automatically.
Clock and Counter Displays	
4:30:15	Tape counter reading of "4 hours, 30 minutes, 15 seconds".
31/12 10:30	It is 31st December, 10:30. (Standard date/time display when recorder power is turned off)
31/12 ⧗ 10:30	Same as above with Child Lock ON.
REC LP 1:30	Recording in the LP mode with the Off Timer set to shut off in 1 hour 30 minutes.
TIMER ⧗ 10:30	It is 10:30 and the Timer Standby mode is engaged with Child Lock ON.
VPS 12:59	It is 12:59 and the VPS standby mode is engaged.
VPS ⧗ 12:59	Same as above with Child Lock ON.
SET CLOCK ⧗	The clock is not set. Please set it. The recorder is locked with Child Lock ON..
Other Messages	
GOOD MORNING ↩ GOOD AFTERNOON ↩ GOOD EVENING ↩	Automatic greetings when the recorder is turned on.
GOOD-BYE GOOD NIGHT	Automatic greetings when the recorder is turned off.

NOTE:

This list represents the various types of messages your recorder is capable of generating. Actual messages displayed by your recorder (esp. if date, time, channel, tape counter reading, or other variables are involved) will differ slightly from those listed here.

Precautions

Please follow these safety precautions. Not doing so may result in damage to the recorder, remote control, or video cassette.

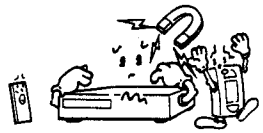
Avoid extreme heat and direct sunlight

Avoid extreme cold

Avoid extreme humidity

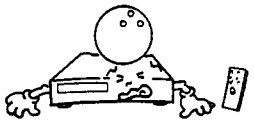
Avoid dust

Avoid places subject to vibrations



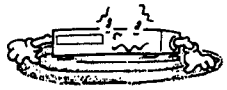
Avoid strong magnetic fields

Do not block the recorder's ventilation openings

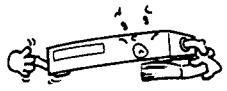


Do not place anything heavy on the recorder or remote control

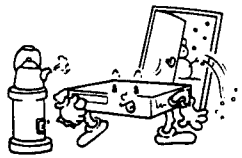
Do not place anything which might spill on top of the recorder or remote control



Do not place the recorder on cushions, pillows, or thick carpeting

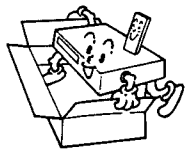


Use the recorder in a stable, horizontal position only



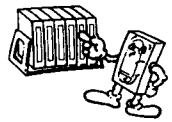
Beware of moisture condensation

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder's power turned on for a few hours to let the moisture dry.



When transporting

- Be sure to remove cassette from recorder before packing
- Avoid violent shocks to the recorder during packing and transport



Place cassettes in cassette cases and store vertically

In Case Of Difficulties

POWER AND TAPE TRANSPORT PROBLEMS

Symptoms	Check points
No power is applied to the recorder.	■ Is the power cord disconnected? — Connect it.
Clock is functioning properly, but the recorder cannot be powered.	■ Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Tape does not run during recording.	■ Is "PAUSE" displayed on the display panel? — Press the PLAY button to extinguish the display.
Tape stops during rewind or fast-forward.	■ Is the C. MEMORY button pressed? — Press again to make "M" disappear from the display panel.
Tape will not rewind or fast-forward.	■ Is the tape already fully rewound or fast-forwarded? — Check the cassette.

RECORDING PROBLEMS

Symptoms	Check points
Recording cannot be started.	■ Is a cassette loaded? ■ Is the safety tab on the cassette removed? — Reseal the slot with adhesive tape.
TV broadcasts cannot be recorded.	■ Has "external input" been selected? — Set to the desired channel.
Tape-to-tape editing is not possible.	■ Is the camcorder or another video recorder correctly connected? ■ Are all necessary power switches turned ON? ■ Has "external input" been selected? — Set to the correct input mode. (☞ p.85)
Camera recording is not possible.	■ Is the camcorder correctly connected? ■ Has "external input" been selected? — Set to the correct input mode. (☞ p.85)
Timer recording is not possible.	■ Have you set the clock correctly and programmed the timer correctly? — Check once again. ■ Is "TIMER" displayed on the display panel? — If not, press the TIMER button to display "TIMER".

PLAYBACK PROBLEMS

Symptoms	Check points
Playback picture does not appear while the tape is running.	■ If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel? — Set it to the RF converter channel (UHF 36). (☞p.55) ■ If you are using AV connection, is the TV receiver set to the AV mode? — Set it to the AV mode.
Playback is repeated.	■ Is the REPEAT switch set to either FULL or INDEX? — Set it to OFF.
Noise appears during visual search.	■ This is normal.
Noise appears during normal playback.	■ Is the automatic tracking mode engaged? — Try manual tracking. (☞p.66)
Noise appears during slow motion playback.	— Try manual tracking. (☞p.66)
Noise appears during still playback.	— Press Pause/Still a few times to remove the noise bars from the screen.
Playback picture is blurred or interrupted while TV broadcasts are clear.	■ Video heads may be dirty. — Head cleaning is necessary. Consult your JVC dealer. (☞p.93)

Hi-Fi AUDIO PROBLEMS

Symptoms	Check points
TV sound cannot be recorded on Hi-Fi audio track.	■ Has the SIMUL/AUX 2 button been pressed? — Check by pressing OSD. If "SIMUL" appears on the screen, cancel it by pressing SIMUL/AUX 2 button.
Breaks are noticeable in Hi-Fi audio reproduction.	■ Is the automatic tracking mode engaged? — Try manual tracking. (☞p.66)

OTHERS

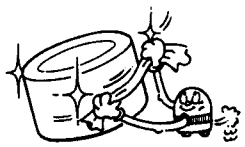
Symptoms	Check points
Whistling or howling is heard from TV during camera recording.	■ Move camcorder or camera's microphone away from TV or reduce TV sound volume.
Remote control's LCD clock time cannot be transferred to the recorder.	■ Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Some channels are skipped over when scanning channels.	■ Those channels are preset to be skipped over. If you need them, restore them. (☞p.86)
Channel cannot be switched.	■ Is recording in progress? — Press the PAUSE/STILL button, change the channel, and press the PLAY button.
Remote control does not function.	■ Are the batteries discharged? — Replace with new ones. ■ Is the A/B CODE indicator showing the proper code for the recorder being operated? — Set the A/B CODE switch to the correct setting.
The remote control's time display changed to "0:00" and is blinking.	— The remote control's batteries are exhausted. Replace all the batteries and set the clock again.

ATTENTION:
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch on. Take out the cassette. After checking the cassette, operate the unit as usual.

Special Note On Head Cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted.
Although this model is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered please consult the nearest JVC dealer.

Auto Head Cleaner



A built-in head cleaner automatically cleans the video heads and head drum whenever a tape is loaded or unloaded to reduce head clogging.